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Galaxy

JACK WILLIAMSON **THE ETERNITY ENGINE**

John Sladek, ELEPHANT
WITH WOODEN LEG
Greg Bear, THE VENGEANCE

ARSEN DARNAY

J.E. POURNELLE SPIDER ROBINSON



Galaxy

Jack Williamson, John Sladek, Arsen Darnay, Spider Robinson, J.E. Pournelle

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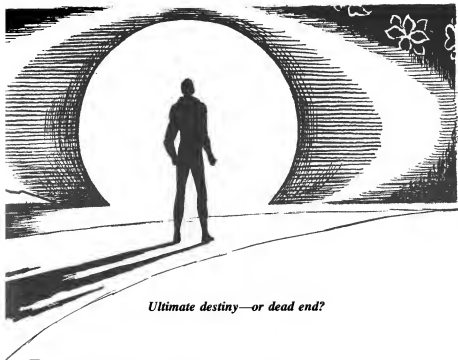
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THE ETERNITY ENGINE

JACK WILLIAMSON





Ultimate destiny—or dead end?

BLACKLANTERN came striding across the rumbling cavern of the Nggonggan portal dome, a scowl on his bleak dark face.

"Respected Benefactor!"

A busy traffic inspector had recognized him even without the red uniform and the silver crescent of his lunar fellowship, which he had put off for the plain gray kilt of the Game clan.

"Rain and shade!" The black inspector shouted that hearty Sand clan greeting. "We range the desert together."

I range alone.

In no mood for courtesies, he pushed rudely on until he saw that wide grin fading. The man's hurt

stopped him. After all, he had no friends to spare.

"Rain." He paused to echo the formula. "Shade. I'm here to meet a passenger."

"Share my tent, sir." Relieved, the inspector bustled up to brush palms with him. "I saw you fight in the arena, sir. Before you had a name. In fact, I lost twelve gongs on you." Admiration flashed in the grin. "The unknown challenger from the gutters of Nggonggamba! I never expected you to win—but I would have bet another dozen gongs that you would never become the Benefactor. Our first citizen!"

No longer.

The unspoken thought lay bitter

on his tongue. A dozen dozen days ago, when Snowfire left, he had been named the resident Benefactor. That high post had been the goal of all his years of training on Xyr, and cruel emotion tore him now that he had to give it up.

"I see you're troubled, sir," the inspector humbled. "Nggongga hatches no end of hard dilemmas, and they all fall upon you. I know that each starving clansman wandering into the city makes a new burden for you. But the Benefactors are our last great hope. We trust you, sir!"

More than I trust myself.

He didn't want to say that he was surrendering his high position just to follow a girl who had left him. Wryly silent, he recalled the term in the Game clan dialect for such hopeless expeditions. "White tly hunts." There were no white tlys.

Disconcerted by his moodiness, the man was turning away.

"Find water." Forcing a smile, he groped for words of graceful gratitude. "Find peace."

"Water!" Happy again, the inspector dropped to one knee in the ritual bow of a departing junior. "Peace!"

He bustled away.

Blacklantern stalked somberly on to wait for Thornwall at the arrival stage beneath the space gate. He knew that the stare of the gate was nothing more than an optical illusion created by the transport fields, but in his dark mood it seemed to watch him like the eye of God.

Lidless and enormous, the seeming eye peered out of involute space-time. The blue-glowing control fields were its iris. The pupil,

framed in that queerly painful shimmer of dimensionless energy, was the interface itself—the cosmic short cut to myriad worlds.

Uneasily, he kept shifting along the guard rail beside the exit strip. The eye always followed. Its huge black disk seemed to probe through all his poor defenses of uncertain status and unstable purpose to find the naked black street urchin he once had been.

It made him feel several sorts of fool.

The giant pupil winked. Half a heartbeat from the far-off planet of the Benefactors, Thornwall emerged from the reflected cosmic dark. A tall commanding man, robed in formal red. He flashed his ensign at the guards and swung off the transit strip, stern face searching.

Blacklantern started to meet him, but faltered. His ageless ice-blue eyes were too much like that appalling orb through which he had come. When he found Blacklantern, however, all his sternness thawed into an easy smile. Lifting two fingers in the fellowship salute, he paused with a look of mild inquiry.

"I wish you were angry, sir." Stiffly, Blacklantern returned his salute. "You ought to be. I've let you down."

"You know you're always free to leave the fellowship." Thornwall's level gaze was still disturbing, but his quiet tone showed no resentment. "We never coerce anybody."

"I can't help feeling disloyal." The implacable stare of that giant eye drove Blacklantern to confession. "I remember you took me out of jail. You made me a Benefactor. You gave me knowledge and power

I had never dreamed of—the chance to share the gifts of progress with all my people. I know I've failed, and I feel wretched about it."

"What went wrong?"

"Two—two problems." Beneath that ruthless gaze, his words stumbled. "You'll meet one of them, waiting outside. The other is Snowfire."

"You can forget her."

"The trouble is, I can't forget."

"I knew you were lovers." Probing him, Thornwall's pale old eyes seemed as omniscient as the gateway. "That's why we left the two of you together here after your escape from the Game clan hunters. When she left, I supposed the affair was over."

"Not for me."

He stopped uncomfortably, but Thornwall simply stood waiting.

"We had different notions of what love is. When Engineer Toolsmith brought us out of the desert after the hunt, she fell for him. She wanted us both. Being Nggonggan, I was jealous. She called me selfish. We hurt each other. When he went back to Swarmworld One, I let her go with him—though I thought she wanted me to beg her to stay. I felt too—too proud for that."

He bit his lip, with a grimace of pain.

"I was wrong," he muttered. "A wrong-headed fool! I'm going after her now. I'll beg her, if I must, to let me join them."

"You can't get there," Thornwall told him. "Swarmworld One is nearly five thousand light-years away. The star gates to it have all been closed."

"I can try—"

"Trying won't help. The swarmworlders aren't cooperative. We have an old philosophic quarrel with them, about culture contacts. As Benefactors, we try to help primitive races adapt to new technologies. The swarmworlders feel that alien technologies are destructive. They have always kept their culture to themselves."

"I know they don't like visitors—"

But I have a plan.

He didn't say the words, because his plan was too desperate. He didn't want Thornwall laughing at him.

"Snowfire's gone." With a shrug that dismissed her utterly, Thornwall swung toward the exit strips. "You're still here. The Benefactor of Nggongga."

"I was," he said. "You'll see why I'm quitting."

When Thornwall's luggage was routed to the agency compound, they rode out of the terminal into the brassy noon of Nggonggamba. Though the "white night" was almost over, the traffic ways were still abandoned to savage sunlight. Blind in the glare, Blacklantern heard angry native voices and the slap of calloused native feet.

"Watch them, sir!" he whispered. "They're desperate!"

A score of nearly naked blacks came rushing at them from the shadow of the dome. A gaunt cripple, lurching on clumsy lancegrass crutches. A reeling woman, skeleton-thin, with a still baby in her arms. A huge-eyed child running ahead, holding out a bright native hat for a begging bowl.

"They're—dreadful!" Thornwall was thumbing coins from his belt. "Let's give them something."

"Careful, sir!" Blacklantern murmured. "Let me do it."

"You call yourselves Benefactors?" The woman shrieked her accusation in a desert dialect. "You travel to the stars and do the work of gods—but look at my child." Her withered black hands held out the dead infant. "Why won't you share with us?"

"We do share." He took Thornwall's coins and flung them out across the pavement. "We try to—forgive us!"

Most of the mob ran to scabble for the coins, snarling over them like ravenous animals. The woman stood swaying, the bloated baby in her stretched-out arms. Its odor turned him ill.

"Come, sir!" He hurried Thornwall toward the nearest passenger way. "You'll see our troubles here. Attacks in the public ways. Pickets at the agency. Hatred I can't endure. The people screaming for food. Their leaders trying to blame us for all that's wrong with Nggongga—and more going wrong every day."

"Patience." Gently, the old man smiled. "Our task was never easy."

"Impossible!" he muttered. "Here on Nggongga. The starving mobs are after our heads, and the police can't—or won't—protect us."

A second crowd of shouting blacks had sprung from nowhere before they reached the ramp. A slim young girl hawking desert flowers. Grimy boys clamoring to clean their boots. Shrieking sellers of bright-

dyed incense sticks and mildewed muskweed pods and burnt clay charms against Cru Creetha. One blind crone followed the pack, offering a worn-out rug of woven nearman hair.

"Make way!" Blacklantern pushed through them. "Make way for the respected senior Benefactor."

"Tleesh!" A tly-stung arena veteran shoved past him, thrusting a twisted claw at Thornwall. "Share life!"

Jostled, the Benefactor tripped over a boot-cleaner's box. The horde closed around him. The old tly-fighter bent as if to help—and slammed him viciously back against the pavement. The flower girl snatched at his belt suddenly and ran.

"Oongath!" Blacklantern called that Game clan warning of ritual revenge and plunged into the mob. The tly-fighter met him with a cunning kick at the groin. Twisting aside, he saw a dagger flash.

"Tleesh!" A dirty urchin mocked him with that old appeal for desert hospitality. A thrown boot-box grazed his head. The owners jeered him with his own battle cry, "Oongath! Oongath!"

The sense of crisis lit a bright elation in him, and awoke his old arena skills. Smiling into the sun, he whipped off his belt for a binding rope. One quick flick drew his attacker's eyes, while he dived for the dagger. In another moment the stung man lay squealing on the pavement, bound like a defeated tly.

He gripped the captured dagger and whirled.

Suddenly silent, the mob melted away. Two frightened boys scuttled to recover the box they had thrown. The evil reek of the dead baby still tainted the stifling air.

Thornwall stood up, rubbing his bruises.

"My ensign!" he whispered. "Gone."

"Guard yourself." Blacklantern gave him the dagger. "I'll get it back."

Thumbing his own ensign to call the police, he started after the flower girl. She had paused to look back. When she saw him following, she flung the stolen ensign at him and fled again. He brought it back to Thornwall.

"My people!" He opened his arms in a gesture of futility. "My own people! As a Benefactor, I was trying to bring them progress—or anyhow to help them survive it. But they're too many for me. Too ignorant. Too hungry. Too savage."

"That's why they need us."

"The job's too much for me."

He scowled moodily down at the bound man and turned wearily back to Thornwall. "I have a stereogram from Snowfire. Her farewell message from the swarmworld, just before the gates were closed. I want you to hear her—she says we Benefactors have been wrong."

"On some worlds we have failed. We may fail here." Thornwall nodded calmly. "Mankind has one great enemy, that we can never completely defeat—man himself." With age-yellowed hands, he held up the dagger as if for evidence. "All the human traits that served us in the jungle can betray us in society. Yet we must preserve them.

The same dark forces that threaten us are also the bright springs of our creative evolution. That ancient blackness sometimes kills us—but sometimes it transforms us. The paradox now and then defeats us—but sometimes we win. The human universe is better than it would have been without the Benefactors."

"I wonder—" But he saw Thornwall's pain, and checked himself. "Let's get on," he said. "Before the police come. These people will accuse us. We could be the ones hauled in."

He released his captive, who stalked sullenly back toward the shadow of the dome.

"Let's hear Snowfire." Thornwall stood blinking into the searing glare and swaying unsteadily, as if Nggongga had been too much for him. "Somewhere out of the sun."

II

THE STILL-ABANDONED ways carried them out of the portal zone to a Sea clan wineshop where they took refuge from the white night in a cool dim booth. When the waitress was gone, Blacklantern twisted the base of the little black message disk and set it on the table before them.

Snowfire's silver image flickered in its focal cone and came alive with sudden color. Her green-gold eyes smiled sadly at him.

"Dear Blackie—" Her low-pitched voice woke memories that still blurred his eyes with tears. "I'm deeply grieved that we can never meet again. Never touch. Never love. But I guess we've

made our choices. You couldn't accept the customs of my folk. I wouldn't accept the ways of yours.

"Anyhow, this will be our last contact. Swarmworld One is closing all its external gates. Indefinitely, Toolsmith says. I suppose you'll wonder why. The reason is something I can only hint at. A cultural quantum jump. A radical new solution to the population problem.

"I wish I could say more. I've been asking for details to send back to the Benefactors, but you know the swarmworld philosophy. My hosts are afraid their new technology might damage other cultures. Perhaps they're right. Anyhow, it is something too far advanced to be useful on Nggongga."

Her image moved in the cone, and red fire played across her hair. He trembled, fighting the blind desire to reach, to catch and hold her golden loveliness.

"So this is our final farewell. I wanted to say again that I do love you, Blackie. In my own way—I still wish it had been yours too. It saddens me to think of you left to waste your life on the pathetic little projects of the Benefactors, doomed as you are to suffer and die in the darkness of Nggongga. I still wish—wish—"

Her voice had quivered, and the cone flickered as if she had erased a moment of emotion.

"Don't forget me, Blackie!" Suddenly she was dazzling. "I want you to know that I'm utterly happy. Eager to test this startling new invention. If Toolsmith's promises are true, our new world will be more wonderful than anything you ever pictured for a paradise.

"Good—Goody-by, Blackie!"

Her eyes had darkened with feeling, and he caught the green glint of a tear as her image dimmed. The disk clicked faintly and the empty shadow-cone winked out.

Blacklantern sat gazing dully at nothing. She had looked real enough to touch, and he could still imagine her sweetleaf fragrance lingering in the booth. All his own brash confidence had faded with her image, and the gloom around him grew darker now with his own awareness of the tragedy of Nggongga.

He had almost forgotten that he was not alone, and it startled him a little when Thornwall moved. The old Benefactor looked as fragile as another shadow in the cone, but his thin old voice was strangely serene.

"So we've lost Snowfire." He leaned calmly forward to refill their glasses. "It takes a rare sort of person to remain a Benefactor. But we're still physicians to mankind. So long as men need help to deal with progress, we'll go on—"

"Without me." Impatiently, Blacklantern swept his glass aside and stood.

"I'm going to follow Snowfire."

"You heard her say all the gates are closed."

"But I think I've found a way." Eagerness lifted his voice. "Engineer Toolsmith was here, you know, to mine Nggongga for the swarmworld—without too much concern at that time about what happened to the natives. The mine is abandoned now. With this new invention, perhaps our planet is no longer needed.

"Anyhow, I've earned a name in

the Game clan and my new friends tell me the mining machinery is still lying there, abandoned in the pit. I hope to get to the swarmworld, through the gates that took the ore.

"Don't laugh at me!"

Thornwall's breath had caught.

"I'm not laughing—but you make me wish I were young again." A brief smile twitched his parchment lips. "If our mission here on Nggongga is too much for you, I think you'll find the way to Snowfire ten times harder."

"I'll take the risks."

"Have you really faced the odds?"

"I've had nightmares about them."

"You've no chance at all."

Thornwall's face was sadly stern. "You're a primitive. You'll be lost in the most advanced culture known—the swarmworld has been evolving new technologies for twenty thousand years. You don't know the folkways. Not even the language."

He had to nod in uneasy agreement.

"Even if you get there, how will you find her? The swarmworlders have been exploding into space for dozens of generations. The swarm is many billion life-spheres, all in orbit. Each one holds as many people as a planet. Looking for her, you'll be like a blind man searching all the deserts of Nggongga for one special grain of sand."

Blacklantern stiffened impatiently. "I've met swarmworlders before. I've even killed one. Goldforge. The manager of their mine here—when he was hunting my head in the desert. I have his

translator and his name ring. I have Snowfire's swarmworld address—probably Toolsmith's home—from the label of the stereogram. I even have money, from selling a few trinkets I'll never need again."

"I drink to your enterprise!"

Thornwall raised his glass, with a quick ironic smile. "Even though I think you wouldn't be going if you had attacked your problems here with this sort of spirit."

Blacklantern gulped his wine and said nothing.

"Is she really worth so much?"

Cold again, the old eyes probed him. "Your whole career as a Benefactor? All our hopes for the future of your people?"

"I've tried to be rational."

Blacklantern scowled at the dead message disk. "I used to laugh at the love-crazed heroes in our old epics. I know there are women enough on Nggongga—girls my own color, sharing my own culture, fit for anything. I even know Snowfire will never be entirely mine, wherever I find her."

He spread his hands in a native gesture of submission.

"But—you see, sir—I can't help how I feel. She—she's burnt into my brain. The image of her festers in me like a barbed desert thorn. Not that I want to forget!"

For a moment they sat silent. A lazy fan above them stirred the scents of stale wine and rancid musk and black sweat. Glasses clinked somewhere in the steamy gloom, and a girl laughed.

"You trouble me." Thornwall pushed the pottery bottle aside. "You and Snowfire. Top agents. People I trusted—loved. Doing

something very foolish, that I can't understand."

"I know how to fight a tly." Blacklantern paused uncomfortably. "Nggongga is harder to handle. I guess I've just lost faith. In the Benefactors. Even in myself."

He saw the hurt in Thornwall's eyes, and still went on.

"I believe the swarmworld philosophy is right. Nggongga must have been a better place before the eye was ever opened. My people had their own way of living, shaped and tested by a dozen dozen generations."

"Yet they were quick enough to give it up," Thornwall said. "Just watch them now, leaving their desert trails and their old mud towns to flock into Nggonggamba."

"The city seems to draw them, as flames draw night-moths." He nodded and paused to think. "The unbreakable problem is the people explosion. The old clan system here was a working answer to it—each clan owned only a limited list of names, and nameless men were not allowed to marry. The younger sons had a hard choice—the priesthood or the tly arena. But at least they knew who they were."

He made a face, as if the wine were bitter.

"The opening of the eye has wrecked all that. The clans are breaking up. The old traditions are thrown away, the old gods forgotten. Progress has betrayed us. We wipe out old diseases with the miracle medicines—and breed more people than the planet can feed. We buy bright new atomic pumps to irrigate our croplands—and dry up the geologic water under the old

oases. In flight from the spreading deserts, we follow the promise of progress into Nggonggamba—and die in the streets."

He pushed his glass aside, to lean across the table.

"Tell me what I could have done," he challenged Thornwall. "As resident Benefactor, after Snowfire left, I was alone here. With no power over anybody. Tell me what one man can do for two hundred million. For hordes of hungry people like those who tried to rob us. They can't eat culture or social theory or even benevolent intentions."

"We can't help people," Thornwall objected patiently. "We learned that long ago. You have millions here demanding food—when there isn't that much food. Even if you somehow fed them, you would have twice as many millions in another generation, twice as desperate. It may seem cruel, but all you can do is tell them how to help themselves."

"If they're too hungry to listen—"

"We always find a few to listen. We train those few to teach and lead the rest. Better than food, we can offer membership in the new galactic culture. We can build a university, design a planetary language, plan a new government. Rather than food alone, we bring knowledge and purpose and hope. We lead the way to a new social discipline."

"If people won't follow—"

"We can't compel anybody—but the facts of nature can." Thornwall straightened sternly. "If you Nggonggans could keep on doubling

your numbers with every generation, in only six thousand years the whole mass of the universe would be black flesh. If we Benefactors have authority, it comes from such harsh brute facts."

"I tried." Blacklantern shrugged. "I'm through."

Suddenly smiling, he leaned to pick up the black message disk.

"All I want is Snowfire."

"I don't think you'll find her." Yet Thornwall's smile reflected his own. "If you do reach the swarmworld, I want to know that new solution to the people problem. I thought the swarmfolk already had the final answer, with all their available mass built into space vehicles and all their solar energy trapped and utilized. I can't imagine anything better."

"I'll try to learn their answer. But I don't expect to be coming back."

"Good hunting, anyhow!" Bright youth had come back to Thornwall's deep-sunk eyes, and he lifted his glass with a flourish. "We trained you well on Xyr. Perhaps you'll make it!"

III

BLACKLANTERN gave up his sign that afternoon, though Thornwall still protested. He outfitted himself at a manhunter's shop. Next morning, wearing Goldforge's name ring and translator, he set out on a chartered flight south toward the old hunting lands of the Game clan.

His pilot was a nervous little mud-colored man, a compulsive chewer of saltflower seed, a compulsive worrier about the voltage drop in his reserve power cell, a

compulsive talker about his Sea clan wife and his nine unmarried daughters, two of them unaccountably pregnant.

Only half listening, Blacklantern was scanning his route map and the unrolling desert. At last he found the narrow green oasis where the ritual hunts had begun. He picked out the bare red mesas he and Snowfire had crossed, the ripple of yellow dunes where Goldforge had overtaken them, the flows of black lava beyond, and the white blaze of the dry salt lake where the body hunters had finally brought them to bay.

Beneath the flyer, all their endless days and nights of love and pain were telescoped into meaningless moments. There was the last red ridge—where the world broke off. Beyond it, sheer cliffs of broken sandstone lipped a pit too vast to show any farther rim.

The brown pilot fell abruptly silent.

He leaned against the window, looking for the bottom of the pit. He found rubble slopes, level shelves, deeper slopes and steeper cliffs. What he discovered at last, miles and miles below, was no bottom, but the tops of towering clouds, floating out of a hazy void.

"Do you want to land on the rim, sir?" The pilot still thought he had come to hunt wild nearmen. "Our agreement doesn't cover spotting or shooting from the air."

"We aren't landing here," he said. "We're flying down inside."

Profanely, the pilot called the name of dark Cru Creetha, eater of suns. His flyer had been chartered for a flight to the pit, not into it. Of

course, personally, he was not afraid to fly anywhere. The Sun Lighter would bear witness to his courage. But he was legally obligated to adhere strictly to the terms of their official flight plan.

"I'll double the charter price," Blacklantern offered. "If you'll land me near one of the old mining machines down inside."

The pilot's muddy color faded. He had heard all he wanted to know about the great metal worms the swarmworlders had sent to eat up the planet, and he was already closer to them than he wanted to be.

The old excavators were stopped and abandoned, Blacklantern said. They couldn't harm anybody.

So I hope, he told himself.

The pilot crunched another saltflower seed. Muttering huskily through froth-purple lips, he said he must consider not only the alarming signs of failure in the reserve power cell and his duty to his wife and daughters, but also the terms of his flight insurance.

Blacklantern estimated the funds he had left. Gates and gongs would be useless, he supposed, in the swarmworld, and he wasn't coming back. He offered to triple the charter fee.

The pilot munched thoughtfully and spurted purple fluid at the cabin floor. Squinting shrewdly across that jagged brink into the cloudy depths, he announced that another gross of gongs would complete the dot for his first daughter. Blacklantern paid him, and they dived.

They found the excavator lying on a black granite ledge. A small bright worm, it swelled and swelled beneath them to become a mile-long

monster. The pilot set the flyer down at a judicious distance, and Blacklantern scrambled out with his hunting gear.

"I'll wait overnight," the pilot offered, "For six gross of gongs."

"Don't wait."

"You can't live here. You can't climb out." The pilot peered uneasily up at the slopes of broken stone and the fracture-carved precipices and the broken benches that made a giant's stairway toward the far sky. "I'll come back in three days—for another triple fee."

"I don't have the money," Blacklantern said. "I'm taking the excavator out."

Chewing hard, the pilot blinked up at the monstrous metal mass and took off hastily.

From the lip of that wide ledge, Blacklantern looked down into the pit. Though the jagged rim that framed the narrow scrap of sky was miles and miles above, his rocky ledge was less than halfway down. The clouds that hid the bottom were still far beneath his level. Lightning flickered in them now, and an endless peal of thunder began crashing and rumbling and rolling away against those looming walls.

He turned to watch the flyer climb. Dwindling fast, it was only a black insect before it reached the top of the first talus slope. Before it rose above the first black granite wall, he had lost it.

He stood there alone.

His neck hurt from looking up, and he couldn't help a tiny shiver from his shattering sense of the vastness of the pit and the power of the swarmfolk who had abandoned it so casually. Perhaps he had been a

fool to let the flyer go, but he had no time for fear. He hitched up his hunting pack and hiked toward the excavator.

The cautious pilot had left him a long way to hike. He was sweating before he reached the great machine. Its curved armor swelled out far above him, scarred from titantic rockfalls, bright and massive and impregnable. Under its shadow, he plodded on toward its rock-crushing jaws.

A new rockslide had half-buried the machine since it stopped. Huge fallen boulders faced him with sheer cliffs as grim as any he had conquered long ago, hunting nestling tlys. It cost him a hard hour's climbing to reach the rotary teeth of the excavator.

In the echoing cavern behind those enormous metal molars, he used his hunting lantern to pick a way along the titantic conveyor that had carried broken stone back to the transfection portal. A blue light flashed suddenly ahead.

Alert to the danger of toppling into some ore-bin or smelter in the far-off swarmworld, he took that for a warning. Climbing off the conveyor, he explored great strange mechanisms until he found a railed inspection walk that led him at last into a high control booth.

Lights came on, when he closed the door. One wall turned transparent to show him a bright picture of the swarmworld—a tiny blue sun wrapped in a milky mist of life-spheres, each invisibly small. A long panel against the opposite wall glowed with symbols he couldn't read.

The third wall framed a dark

opening beyond a level ramp. When he walked toward it, new lights picked out a little vehicle without wheels, somehow suspended just above a wide black track. Its transparent shell showed half a dozen seats inside.

Trembling now with the same breathless sense of risk and elation he had felt when he faced his first diving tly, he pulled at its oval door. The door stayed fast—but, beside it, an amber-circled sensor began to blink.

He stopped for a moment, frowning. Any error, now, could be as quickly fatal as a false move in the arena. Yet this was clearly the transport system of the vanished miners. The vehicle promised to carry him to the swarmworld, while the blinking sensor seemed to question his right to go.

He caught his breath and thumbed Goldforge's name-ring to flash its color-coded signal ray into the black center of the sensor. The amber circle quit blinking. The door slid open. Light came on inside the crystal shell. Heart thudding, he stepped inside.

The door clicked shut behind him.

He waited, almost afraid to breathe. Nothing happened until he slid warily into the nearest seat. Then a soft bell-note rang, and a bank of keys shone green on an oval panel beside his seat. Most of the symbols that marked them were strange, but he saw that two of them were numerals, oddly shaped, like those on the label of Snowfire's stereogram.

He sat for a moment thinking, muscles as taut as when he first had

to judge the strike of a screaming tly. Hopefully, then, he began using the portal print on the label to translate the green symbols, punching out what he hoped would be Snowfire's swarmworld address.

The life-sphere number—or was it? As he touched the last digit, the panel chimed faintly and one green key turned golden. Elated and more anxious, he stabbed out what he thought should be the level number.

A higher note chimed. Another symbolized key changed color. With a heady sense of success, as if he had discovered the blind side of a dangerous tly, he tried the octant number. Another rising chime. Another golden glow.

He kept tapping, his whole body cold with sweat and quivering. The sector number. The zone number. The corridor number. At last, the dwelling number. Its final digit startled him with a deep-toned gong and a flashing crimson symbol.

He froze, as if an unseen tly had bellowed above him. While he stood wondering what to do, a toneless synthetic voice hummed from the panel.

"—transposed." Goldforge's translator picked it up. "Dwelling no longer occupied. Access restricted. Revised destination instructions required."

All his muscles tightened, but he had nothing for them to do.

"Request—" His voice failed, and he had to catch his breath. "Request destination information. New address of—of last occupants. Of Benefactor Snowfire and Engineer Toolsmith."

For an endless second, nothing happened.

"Benefactor Snowfire not identified," that dead voice droned at last. "Engineer Toolsmith transposed. No local dwelling in use. Revised destination instructions required."

Grimly, he tried to slow his drumming heart.

"Request assistance," he called again. "Required destination is current address of Engineer Toolsmith, former occupant of destination first requested."

For longer seconds, there was no response.

"Body of Engineer Toolsmith located," the machine purred suddenly. "Revised destination will be Ironforge Clinic of Exotic Pathology, Sphere 101011100, Level 1100101, Octant 101, Sector 1010101, Zone 11100, Corridor 110011, Dwelling 11001010. Prepare for departure."

He sank back in the seat with a gasp of relief.

The crimson winking stopped. A triple chime rang. Silently, the crystal capsule swept forward into a gray-walled tunnel. Ahead, a giant eye widened.

He shrank in spite of himself from its blue-rimmed blackness.

The vehicle toppled down its track, through the painful depthless flicker of the iris, into the flat enormous pupil. The cavernous belly of the excavator was instantly five thousand light-years behind. The vehicle swayed and fell again, through another gray tunnel and into a stranger space.

For a heart-clutching moment, he felt weightless. The capsule tipped up a steeply climbing track. As it gained speed, his sense of weight

came back. He caught his breath and tried to see where he was.

On his left, a dark wall was blurred smooth by his motion. On the right, he looked out into a hollow cylinder, its dimensions too vast for him to estimate. Mottled blue and green, its far-away curve was below and above and all around him. Its farther end was lost in misty distance.

The cylinder seemed to roll beneath his racing vehicle, spinning around him at a giddy rate. A wave of vertigo swept him. Clutching at the seat ahead, he groped for his lost orientation. Though he supposed the life-sphere must be rotated to create a centrifugal substitute for gravity, he knew it couldn't be spinning so crazily.

Most of the actual motion, he soon decided, was that of his own capsule, plunging around and around a spiral track built into the near end of the cylinder, carrying him away from its axis toward the wall.

This long hollow, then, must be only the core of the huge life-sphere. The inhabited levels would be farther from the axis, where the centrifugal pull was stronger.

His giddiness gone, he looked "down" again at the endless racing landscape. Now, as it came nearer, he could see that the green areas were grassland and forest, the blue patches lakes and streams. Here at the heart of this enormous mechanical world, the swarmfolk had made a place for nature.

Eagerly, he began searching for people.

Soon he was able to pick out the boles of odd-shaped flowering trees.

He saw winged things flying, fat quadrupeds grazing, a sleek black creature stalking one of them. He caught a glimpse of what looked like playground equipment in an empty park on a wide lake beach. Graceful robotic devices were busy here and there, but he found no human beings.

Perhaps the swarmfolk were sleeping.

At the level of that deserted landscape, the capsule flashed past a vacant passenger platform and dropped into another tunnel. A new gong chimed, and the whole nose of the vehicle was filled with the stereo image of a half-transparent ball, wide triangular wings flaring from its poles.

Deep inside it, a bright green point was crawling. When he found the hollow core, and all the curving shells around it, he suddenly understood the the ball was the life-sphere, that the creeping point followed his own position.

Now and then some light or signal flashed backward along the tunnel wall, but the capsule was so soundless that he thought it must be moving in a vacuum. He felt startled when it lurched and stopped, with a wheeze of air. The map winked out. A mellow gong rang.

"Ironforge Clinic," that cold synthetic voice announced. "Ironforge Clinic."

When the door slid open, he scrambled out of the capsule. Soundlessly, it glided away. He stood on a bright-lit platform. Tensing with a wary readiness, as if waiting for a strange tly to dive, he turned to search that long chamber for the teeming swarmfolk he had

been prepared to meet.

He found nobody anywhere.

IV

BEWILDERED BY THIS silent emptiness where he had expected to encounter teeming billions, he paused to sniff the air for any human odor. His nose was keen enough to tell Sea clan fish-eaters from the muskweed pickers of the Wind clan or the Game clan nearman hunters, but the cool wind that blew from the tunnel held nothing of mankind.

When he listened, all he could hear was the thump of his own heart and the rustling of his clothing and the tiny clink and clatter of his hunting gear, all magnified when they whispered back from the hard white walls.

As if climbing near a wild tly's nest, he moved along the platform, all alert, searching the way for each footstep. Still he heard no human sound, caught no human scent—till a loud gong nearly stopped his heart.

Where it had rung, he found an amber sensor circle blinking. Quivering with his own strained readiness, he flashed Goldforge's ring into the circle. It went out. A tall crack cut the wall and widened to make a doorway. He walked through, into a monumental room.

It should have been busy. Rows of seats faced high screens where unreadable legends glowed. Bright kiosks were spaced here and there about an unending desert of floor, as if to dispense information or instructions. All around the far-away walls, empty archways opened into half-seen vacant passages.

But all his senses found nobody anywhere.

The dead hush dissolved all his first elation into dark perplexity. Even if the swarmfolk observed their own white night, there should be somebody somewhere. Though he could see no evidence of violence or disaster, he began to feel that he had stumbled into a universe of irrational nightmare.

A liquid clink took his breath again, as startling as some water-drop in a desert cave. It rang and pattered and died in the long vaults above him, and came again before he found its source in a new pool of scarlet light before him on the floor.

Uncertainly, he stepped toward it.

The pool stretched out at once to become a bright red line, leading toward a distant archway. He caught his breath and followed.

The scarlet mark arrowed ahead, guiding him down an echoing hall beyond the arch, across another huge concourse, into another corridor so long that he could see its floor curving disturbingly up and up ahead of him to follow its level around the axis of the spinning sphere.

Still he met nobody.

The red line bent at last, to pick out a door. A queer light symbol flashed beside it. A chime sounded. The door divided. A gangling, yellow-freckled man ambled out into the corridor to greet him in fluent street Nggonggan.

"Welcome, Benefactor! I knew it had to be you."

"Toolsmith?" Without the blue goggles he had always worn on Nggongga, with his stiff white hair

uncombed and his uneven teeth too widely spaced and a faint purple stain on his lips, the freckled man looked so young and mild and harmless that he was hard to recognize. "I'm glad to find you!"

"You almost missed me."

Relaxed and affable, Toolsmith beckoned him through the entry alcove, past the glowing signals of what must be the master panel for the household machinery, into the thin sweet smoke of muskweed burning in a black clay censor on an antique tripod of Sea clan bronze.

The room relaxed him. The walls were hung with ritual daggers and braided rugs of nearman hair. A tall shelf held a blown tly's egg, painted with Cru Creetha's black-fanged grin. The seats were massive lancegrass cushions. Inside, everything was Nggonggan.

He inhaled the incense gratefully, but stiffened again when he saw the wide archway in the farther wall. Beyond it, bright-sailed boats were tacking up a slope of flashing blue water, climbing an insane seascape that bent up and up to an impossible perpendicular and curled back overhead, with no horizon.

For a moment he thought he was somehow looking through a window into the sphere's hollow core, though he knew he had left it far behind. Then Toolsmith touched a button and the whole unsettling scene dissolved into a grey fog of an empty stereo tank.

"Your signal from Nggongga was just in time to catch me here," Toolsmith was explaining. "It was transposed, you see, several days ago. Ordinarily, my body would have gone straight to salvage, but it

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happens that the medics wanted to hold it for research into the effects of all my years among the pathogenic hazards of primitive Nggongga.

"Otherwise—"

He broke off to urge Blacklantern into the room.

"Sit!" With a Nggonggan bow of ceremonial welcome, he waved at the cushions. "Share water and shade, shelter and life." He added genially, with his gap-toothed smile, "I have to admire your sort of reckless enterprise. Snowfire was expecting you to follow. I thought you would fail to get here, even if you tried."

"Is she—" He stood looking around the room, sniffing the heavy smoke-scent, searching for any trace of her. "Is she—here?"

"You're too late to find her alive." Casually compassionate, Toolsmith spread his open hands in the Nggonggan gesture of final negation. "You see, we were both transposed together."

ONCE LONG AGO, still proving himself for the arena, he had been creeping into a dark cave to steal an egg from a tly's nest when he heard the furious bellow of the male returning. Suddenly, now, he could taste the bitter dust of the droppings again. He felt the same choking tightness in his dry throat, heard the same fast hammer of his heart.

But Engineer Toolsmith was no bull tly. A tall ungainly man with stooped narrow shoulders and weak blue eyes, his pale skin still bronze-mottled from Nggongga's sun, he looked too mildly insignificant to be any enemy—so awk-

wardly unhandsome, in fact, that he wondered once more what Snowfire had found to love in him.

"About Snowfire?" Tormented, Blacklantern reached out as if to clutch his angular frame and shake information out of him. "What do you mean, when you say she was transposed?"

"Sit and rest, respected Benefactor." Toolsmith bowed again in the Nggonggan manner, courteous and almost apologetic. "I'm afraid you'll be disturbed by what I have to tell you, but you're too late to do much about it. The transposition process cannot be reversed."

He was shuffling about the room as he talked, lighting a new muskweed stalk in the censer, placing a low table between the cushions, bringing plates of bright-skinned fruits and small hard cakes, opening a bottle of seaberry wine.

"I spent half my old life on Nggongga," he murmured. "As you can see, I became quite a primitive. Of course I never took up trophy hunting, the way Manager Goldforge did. But I did have a nice antique collection that we brought back, and a small cellar of my favorite Nggonggan wines. Let's drink to Snowfire."

Blacklantern had firmly resolved not to be jealous. Though that promised to be difficult, he made himself accept a glass of the aromatic wine. Silently, they sipped. The perplexing hush of the whole sphere began to echo in his mind. Toolsmith's air of casual ease brought his impatience to the bursting point.

"Where is she?" he exploded. "Where's—everybody?"

"Transposed." Toolsmith shrugged lazily. "I suppose you came expecting to meet millions of us, but transposition had been in progress for several generations. The whole job will take a few more—a few of the most conservative spheres have hardly begun. Here, we're nearly done, though of course I'm not the only live body left. You'll find a good many at the transposition center. Even a few here at the clinic."

"Tell me—" Struggling with violent impulses, he had to be careful with his voice. "Won't you tell me what you mean?"

"You won't like it." The weak-seeming eyes blinked at him thoughtfully. "Yet your status as a Benefactor ought to help you grasp it. Snowfire had no trouble at all. In fact, she was even wishing you could share it with us."

"She sent me—sent me a stereogram." He felt cold with a dread too vague to grasp, and his tongue was clumsy with the words. "She hinted at something—some new process. She called it a cultural quantum jump."

"So it is!" Beaming, Toolsmith paused to savor his wine. "Our final answer to the problem of numbers. A universal problem. You can see the beginning of it if you bother to look, even on Nggongga. All those refugees from their dried-up oases and their wind-eroded fields, jamming themselves into the city to beg and breed in the streets."

Toolsmith was leaning genially to refill his glass. He waved the bottle away and sat stiffly upright, waiting while the long swarmworlder drained his glass and disposed his

angular limbs on the cushions.

"We've always done rather well by our own expanding population." Toolsmith smirked smugly through his freckles. "I won't club you with statistics, but each one of our spheres can hold several times the present population of Nggongga, still assuring each individual an abundance of space and mass and energy that even your rulers might envy."

"A dozen generations ago, however, we began to feel the limits of that physical solution. All the mass of our moons and planets had been built into vehicles and all the radiation of our star had been efficiently trapped. Of course we tried to limit our growth, but our total population had become so large that even the smallest rate of increase produced more people than we could care for."

"We sought new stars to colonize, but those in reach had all been claimed. We did begin efforts at expansion to a few such undeveloped worlds as Nggongga, but even the most backward races turned out to have an irrational attachment to their plague-ridden planets."

"Now and then some radical wanted to relinquish our policy of non-contact, suggesting that our exported technology would soon conquer all the civilized galaxy, converting every star into a new swarmworld. Such proposals were always vetoed. We still respect other cultures."

Blacklantern had moved impatiently.

"Give me time." With a chiding grin, Toolsmith gestured at the pottery bottle. "You may as well re-

lax. You're too late to stop Snowfire's transposition, and she would want you to know all the details before you come to your own decision."

Stubbornly, he shook his head at the bottle.

"As you like." Toolsmith shrugged. "But there's no hurry."

If I kill him, he told himself, Snowfire will hate me.

If she's still alive, he added, to hate anybody.

Grimly, he sat back to listen.

"We had come to the physical limits," Toolsmith rambled easily on. "It looked as if our growth had ended, until the computers made a breakthrough. Of course our computer technology had always been advanced, stimulated by all the demands of our expansion into space. For dozens of generations, all our culture had been going into the memory banks—science and engineering, laws and commercial records, literature and history, even music and art. When our dilemma of numbers became acute, the computer net met the challenge with transposition.

"From the living body, into the computer!"

Toolsmith paused to enjoy his shocked response.

"The entire mental content is read out and stored. Memory and awareness. Patterns of habit. Emotions and perceptions. Capacity for learning and thinking and growing. Everything that makes us human, scanned from the fragile and fallible cells of the organic brain and transposed into solid-state matrices in eternal crystals.

"Finally, we've shaken off our

old animal inheritance—all the jungle traits that trip up progress on planets like Nggongga. We've really done what the priests and philosophers have been calling for since mankind left old Earth. We've broken the chains of the body, to set the human spirit free.

"If you can grasp that—"

Toolsmith stopped, blinking at him doubtfully.

"All this means that Snowfire is dead?" He sank back against the cushions, as numb as if an un-milked tly had stung him. "You did this—this thing to her?" His hands ached for Toolsmith's scrawny neck so savagely he had to clutch them together. "You fed her mind into some machine? And let her body die?"

Toolsmith was nodding cheerily.

"I'm the exception. In most cases the bodies aren't revived." His thin shoulders twisted in a gesture of benign unconcern. "Not that they matter. I've been speaking to Snowfire and my own transposed self. They're both too busy exploring their new state of being to have much time for me, but they're certainly very much alive."

"I—I won't believe it!" Blacklantern tried to soften his grating voice, and he made his quivering fists relax. "Snowfire was so—so warm, so bright and beautiful. So altogether human. She can't be herself, caged in some cold machine."

"I knew you'd find the notion hard to take." Toolsmith made a compassionate Nggonggan click. "You're displaying the normal primitive prejudice against machines, but I hope you'll try to

rise above it. If you'll stop to think, you'll have to admit that human brain tissue is just about the worst possible vehicle for intelligence."

He grunted his angry disbelief.

"Compare the two!" Toolsmith urged him blandly. "The organic brain functions through clumsy electro-chemical processes propagated at a few hundred feet per second. The computer functions at the speed of light. At best, the human brain is a transient association of unlikely atoms, designed by random evolutionary mutations. Our great computer net is the ultimate mental instrument, formed by intelligence for the functions of intelligence."

Toolsmith's pale eyes shone, and a sudden fervor lifted his twangy Nggonggan nasals.

"Transposition sharpens all your sensations and amplifies your emotions. It lifts all experience to a new level of intensity—Snowfire and my new self assure me that making love is now an ecstasy they had never hoped to discover."

Blacklantern tried not to flinch.

"The change has made them truly immortal," Toolsmith ran happily on. "They're secure now from sickness and exhaustion, from all pain and decay. Their mental powers are multiplied beyond our comprehension. Their memories are absolute. They can make full and instant contact with all the other minds in the machine—or even merge with them. They have reached a perfect state of being. One that you primitives never imagined, even for your greatest gods!"

Blacklantern sat staring, feeling

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cold and dull and ill.

"Drink up and cheer up!" Toolsmith drained the bottle into their glasses, splashing recklessly. "You haven't glimpsed the real beauty of it yet. I'm an engineer. I respect practical efficiency more than anything, and transposition is superlatively efficient. As a vehicle for life, our computer net is twelve point two million times better than our old organic bodies."

He flourished his dripping glass.

"Evaluate that! Twelve-point-two million human minds—complete human beings—fully supported with the same space and mass and energy we had been wasting to maintain only one. That's the reason you met so few people on your way here. Most of us—in this sphere, anyhow—have already been transposed. We have resources now to supply twelve million times our former population."

Adam's apple bobbing beneath

the yellow freckles, he gulped his wine.

"I suppose you're busy projecting our future population curves. The problem gets complex, because nobody ever dies. You'll be glad to know that birth still takes place inside the computer—with none of the old physical hazards, and with vastly enhanced opportunities for intelligent selection and manipulation and recombination of the parental genetic factors. Without such growth, our whole world would die. Now, however, the rate of growth can be rationally controlled—as it seldom has been on the primitive worlds."

"I'm not projecting anything." Blacklantern tried to moderate his voice. "But tell me this. If transposition is everything you say, why didn't you let Snowfire take the secret back to the Benefactors? Don't other worlds need it?"

"Our position makes good sense." Toolsmith met his harsh impatience with an air of mild reproof. "We don't export our culture—simply because it is superior. In contact situations, the other race nearly always accepts it and lets their own culture die."

Blacklantern has surged half upright, and Toolsmith beckoned him back toward his cushions.

"Cultures are living entities, with their own rights to survive. When they are closely kin, they sometimes merge successfully. I can see a legitimate role for you Benefactors, in facilitating such mergers. But we have pulled too far ahead. Contact with your world would surely kill Nggonggan culture—even though dislocated individuals might sur-

vive. We don't want that."

Hastily, he raised both hands against Blacklantern's anger.

"Share peace! We mean well, believe me, and the wisdom of our position has been established many times. Cultures grow. When you Nggonggans are ready for a new technology, you'll find it for yourselves."

"You're wrong!" Blacklantern rasped. "Cultures have always spread from people to people. The impact of new ways may be painful—but progress always is. Our business as Benefactors is to ease the pain."

Toolsmith shrugged, his contempt not entirely veiled.

"About Snowfire—" Blacklantern stopped to smooth his tone and he spread both hands in the Game clan gesture that begged for hospitality. "Can I speak to her? Wherever she is!"

"If she likes." Toolsmith waved a limp freckled hand at the stereo tank. "You'll have to remember that transposition has enlarged her whole scale of being. I really doubt that you matter to her now. But you can try."

Lazily, he rose.

"With all respects, Benefactor." He stood dipping his white-stubbed head in a Nggonggan bow of parting. "You've had a pretty full briefing, and now the medics want me at the lab. Their gross observations are completed. I'm reporting now for the histological studies, so I don't expect to be back."

"You mean—" Shock caught Blacklantern's voice. "You expect to die?"

"The medics will be using up my

body." He nodded casually. "It's good for nothing else. But the real me, programmed into the machine, is more alive than ever. I'll never die."

"Once in the arena I heard a disciple of Cru Creetha make the same boast. An hour later he was stung and begging for the dagger."

"People don't return from Cru Creetha's mythical kingdom." Toolsmith murmured. "But if you'll wait here, I think Snowfire will come back to you." His white head bobbed again. "Share drink, share food, share peace."

"*Tleesh*," Blacklantern answered stiffly. "Share life."

He was busy for a moment at the control panel in the entry. Blacklantern heard him humming an old Sand clan love song. Then the door whispered, and he was gone.

V
LEFT ALONE TO WAIT for Snowfire in that tiny odd oasis of Nggonggan culture. Blacklantern felt lifted with the same curious lightness and keenness that had filled him before his first tly fight. The smoke from the muskweed censer became unendurably sharp and sweet. The aftertaste of the wine turned acid in his mouth. The breathless stillness seemed to promise some intolerable explosion. Each beat of his heart opened another anxious infinity.

The faint click of the stereo tank seemed louder than a mangu. He had to squint and blink against the sudden glare that burst through its fog. Before any form took shape, he heard Snowfire's eager low-pitched voice: "Blackie! I'm so glad you came."

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While she spoke, the burst and swirl of fire in the tank had become another Nggonggan room, with ornamental daggers and patterned carpets on the walls and muskweed stalks charring in a black clay censer on a bronze tripod. Almost exactly, it mirrored the room where he was—but the person reflected where he stood was Snowfire.

He ran to meet her, rejoicing in her warm golden loveliness. She wore something snug and lustrous that flowed to the floor but bared one firm pale-gold breast. Her green-gold eyes smiled into his, dazzling with delight.

"Watch the glass!"

In his hot desire to take her in his arms, he had almost forgotten the wall of the tank. She raised her hand to stop him and laughed at the way he checked himself, a glint of malice in her eyes.

"You can't just walk into the computer," she said. "I'll have to send a car to bring you to the transposition center."

A few minutes—if you can wait!"

He recoiled, almost as if she had slapped him.

"You're really—dead?" he whispered. "Except—"

"I suppose." Her carefree shrug sent waves of fire through her red-golden hair. "The bodies aren't revived. They go straight to the mass exchangers."

"You can't—" His aching throat caught again. "You can't come back?"

"Why should anyone go back?" Her long body shivered in the tight scarlet sheath, and her eyes grew dark with something close to terror.

"I remember life as it used to be—when I knew no better. I thought it was good, as you still do. But now I could never endure all its agonies again. The limits of the organic body. The frustration and weakness and pain. The dread of inevitable death. Worst of all, the loneliness."

Her long golden arms opened toward him.

"I loved you, Blackie. I believe you loved me. But we were both terribly alone—shut up in the prisons of our organic bodies as all mortal humanity is. I could never really understand you—never really reach you. We always had a barrier between us."

She gestured impatiently, as if to brush the wall of the tank aside.

"Out here, we communicate. The old barriers are gone. Contact is closer than speech or touch. You're *part* of everybody else, as fully as you wish to be. All that anyone has ever learned or lived is yours to remember—to *be*—with no loss of the individual *you*."

She made a wry little grimace that twisted a dagger in his own recollection.

"Words aren't good enough. They never were. Nothing was—not even the love we had in the desert, with the Game clan hunters behind us." She paused to smile at him dreamily, eyes half closed, lips a little parted, arms slowly lifting to her red-golden hair. "You'll know what I mean," she breathed, "when you're transposed. When we love, we'll truly share each other. I'll feel all you feel, and you'll feel all I feel. We'll be entirely one."

Thinking of Toolsmith, he felt

weak and cold.

"Here outside, all of us share everything." She reached again as if to grasp his hand. "A quantum jump in human evolution!" Her breathless huskiness begged him to understand. "In all the history of the universe, the only important fact has been the slow expansion of awareness, from a tiny spark in the first one-celled things to each stage of brighter light as some new power of mind emerged. If you look for the quantum jumps, they have all been inventions in communication—nerve tissue, sense organs, language, writing, electronics, the space gates.

"Now, transposition!"

She was leaning closer to the barrier, so ripe and warm and wonderful that he quivered with desire.

"Those inventions have always fused minds together, into greater and greater social beings. Into many-celled individuals. Into families. Into tribes. Into nations. Into the whole galactic civilization. Each stage enjoyed wider perceptions, a vaster experience, a higher level of awareness. Now, through our computer net, uncountable merged minds have reached a new era of conscious evolution. We've become a supermind!"

The light in her green eyes frightened him.

"The final limits of our new power are not yet tested—if any limits do exist—but we can already control mass and energy and space and time as no lone human brain could ever hope to. We can already sense older and greater superminds in the farther arms of the galaxy, and we're reaching out for contact

with them. We can already foresee even more exciting quantum jumps on our way toward a full conquest of all the brute stuff of the whole universe by a completely conscious mind. A fully sentient cosmos!

"Blackie, aren't you thrilled?"

Both hands now pressed hard against the cold crystal wall between them, he stood frozen, dazed with a shapeless dread, gripped in spite of himself by her triumphant emotion yet stunned by the stark immensity of her vision.

"Blackie, haven't you been troubled by the nature of things?" Her voice fell appealingly, as if she had suddenly sensed his whirling uncertainty. "By the deadness of all the cold mass around us? By all the stubborn facts that feelings can't change? By the terrible gap between what we are and what we want?"

When she paused, he had to nod.

"The world has always been a poor fit for us." Her urgency was almost plaintive. "Most science and most art and religion has been a pathetic effort to improve that fit—to discover or invent some sort of order or meaning in the shape of nature. Now we've found the natural plan."

Elation quickened the rhythm of her voice.

"Now at last, we belong! We're all part of an increasing natural order that will expand without limit until it has transformed the whole space-time universe into the mental instrument of a single ultimate awareness—"

A gong boomed.

"Your car." Her bright head moved toward the doorway behind him. "Waiting to take you to the

transposition center." Her voice sank huskily again, almost caressingly. "You needn't hesitate. The process has been perfected for several generations, and tested many trillion times. There's no risk. No pain at all. The scanner itself puts you to sleep, and your body will never be revived."

Her full lips pouted as if to kiss him. "In an hour, you'll be with me."

The gong throbbed again.

He drew back from her, trembling.

"Listen to me, Blackie!" Her voice was flat and shallow now, alarmed. "If you're still doubtful, I can understand. I was a Benefactor, too, you know. The old way of thinking was hard to shake off. When Engineer Toolsmith first told me about transposition, I begged for permission to take the invention—or even just the news about it—back to the fellowship. He said it wasn't possible. I appealed to the transposition staff, on the grounds that isolation law didn't apply to me because I wasn't a swarmworld citizen. Once I thought I was about to win, but they kept delaying the decision till Toolsmith persuaded me to come through with him. Now I wouldn't go back—not for anything!"

Her pleading voice sank breathlessly.

"Trust me, Blackie!"

"I—" A throb of pain closed his throat. "I guess I'm still a Benefactor. I thank you for reminding me of that."

"Blackie!" She cried his name sharply. "I was so happy when Toolsmith said you were here to

join us. You can't—" He saw her bright tears welling. "You can't turn back!"

Her golden arms had opened for him. He swayed toward her till his head struck the crystal wall. In an agony of frustration, he drove his fist against it.

The impact dimmed her image and set diamond sparks to dancing all around her.

"Don't!" Her image cleared again, her eyes black with pain. "You could smash the glass. You could bleed. You could die, Blackie. Die!" Dread hushed her voice. "You could miss immortality—all your splendid chance to share the transformation of the universe."

"If you love me—"

A third time, the gong boomed.

"Come, Blackie!" she breathed.

"Come now. The car can't wait."

"I—I can't!"

"Why, Blackie? Why?"

"Maybe—maybe I'm too primitive." Stiffly, with both hands, he pushed himself away from the tank. "I do love you, Snowfire—at least I loved the human you. But I'm not quite ready to become a god. I'm going home to be a Benefactor."

"You're refusing transposition?" Her wet eyes widened. "The greatest gift there is! I don't understand you, Blackie. I never could."

"You've become a goddess. I'm still a black Nggonggan."

"Knowing about transposition—" Her hurt eyes searched him again. "How can you be just a Benefactor?"

"I think I see my mission now," he told her. "I'm going to take the news back, as you wanted to—if I can get back. I can't take the actual

process. Maybe Nggongga isn't ready for it. But I think my troubled people need new beliefs to replace the old myths that progress and knowledge have killed. Perhaps the legend of eternal life in the computer can replace the old legend of Cru Creetha."

She shook her head, bewildered.

"I offer godhood." Her eyes were blankly accusing. "You want only a legend. I hope you're never sorry—"

Her head turned as if to listen.

"Good-by, Blackie!" Briefly, sadly, she glanced back at him. "Freckles is calling me now."

The projected room around her dimmed and faded. The Nggonggan daggers and rugs and censer were gone. Where they had been, he saw the fleeting image of a bare black granite peak. Toolsmith stood there with his angular arm flung out toward a huge red sun rising from a flat black ocean.

When Snowfire appeared there, he turned to welcome her with his gaptoothed grin, and she was scrambling to his side as they vanished.

Blacklantern stood a long time gazing into the empty stereo tank.

"Freckles!" The sound grated harshly in his throat. "Freckles!"

He swung abruptly from the tank to stalk the empty room, all his new resolution crumbling into pain and doubt. Even though he had refused Snowfire's gift of something like divinity, her golden image still haunted him. Not eternal, he was not yet ready to die. He had rashly spoken of returning to Nggongga, but he knew no way to get there.

He felt utterly lost, in a world he would never know.

That mellow gong throbbed again.

Uncertain what it could mean, he started toward the entry.

"Blackie!"

The doorway was open, and another Snowfire stood there, quietly smiling. He stared, recoiled, gasped for breath, and swept her into his arms. Her golden flesh felt warm and firm and real. Her red-glinting hair was fragrant with her own clean sweetleaf scent, and he found no barrier between them.

"You look—terrible!" She caught his arms and pushed him off to study him. "Was my other self so frightful?"

"I thought you were dead."

"That was my transposed self."

She nodded at the gray-fogged tank.

"But I'm the original *me*."

Her green eyes smiled at his mute astonishment.

"I hadn't really expected to be revived, but I had applied for permission to return to Nggongga and the transposition staff has finally agreed that we're not under their legitimate jurisdiction. They're opening the gates to return us to Nggongga. The car's waiting."

"Shall we go?"

He glanced back into the stereo tank, where her superhuman self had offered him everlasting life. Its cloudy depths looked cold and dead. He wagged three black fingers at it, in a childhood gesture against Cru Creetha, and swung eagerly back to grasp her mortal hand.

They ran together to the waiting car. ★

ELEPHANT WITH WOODEN LEG

JOHN SLADEK

(Madmen never listen.)



Note: Madmen are often unable to distinguish between dream, reality, and . . . between dream and reality. None of the incidents in Henry LaFarge's narrative ever happened or could have happened. His "Orinoco Institute" bears no relation to the actual think tank of that name, his "Drew Blenheim" in no way resembles the famous futurologist, and his "United States of America" is not even a burlesque upon the real United States of Ar-morica.

I COULDN'T hear him.

"Can't hear you, Blenheim. The line must be bad."

"Or mad, Hank. I wonder what that would take?"

"What what?"

"What it would take to drive a telephone system out of its mind, eh? So that it wasn't just giving wrong numbers, but madly right ones. Let's see: Content-addressable computer memories to shift the conversations. . ."

I stopped listening. A bug was crawling up the window frame across the room. It moved like a cockroach, but I couldn't be sure.

"Look, Blenheim, I'm pretty busy today. Is there something on your mind?"

He plowed right on. ". . . so if you're trying to reserve a seat on the plane to Seville, you'd get a seat at the opera instead. While the person who wants the opera seat is really making an appointment with

a barber, whose customer is just then talking to the box-office for *Hair*, or maybe making a hairline reservation. . ."

"Blenheim, I'm talking to you."

"Yes?"

"What was it you called me up about?"

"Oh, this and that. I was wondering, for instance, whether parrots have internal clocks."

"What?" I still couldn't be sure the bug was a cockroach, but I saluted just in case.

"If so, maybe we could get them to act as speaking clocks."

He sounded crazier than ever. What trivial projects for one of the best brains of our century—no wonder he was on leave.

"Blenheim, I'm busy. Institute work must go on, you know."

"Yes. Tell you what, why don't you drop over this afternoon? I have something to talk over with you."

"Can't. I have a meeting all afternoon."

"Fine, fine. See you, then. Anytime around 4:43."

Madmen never listen.

HELMUT RASSMUSSEN came in just as Blenheim hung up on me. He seemed distressed. Not that his face showed it; ever since that bomb wrecked his office, Hel has been unable to move his face. Hysterical paralysis, Dr. Grobe had explained.

But Hel could signal whatever he felt by fiddling with the stuff in his

shirt pocket. For anger, his red pencil came out (and sometimes underwent a savage sharpening); impatience made him work his slide rule, surprise made him glance into his pocket diary, and so on.

Just now he was clicking the button on his ballpoint pen with some agitation. For a moment he seemed about to actually take it out and draw worry lines on his forehead.

"What is it, Hel? The costing on Project Faith?" He spread the schedules on my desk and pointed to the snag: a discrepancy between the estimated cost of blasting apart and hauling away the Rocky Mountains, and the value of oil recovered in the process.

"I see. The trains, eh? Diesels seem to use most of the oil we get. How about steam locomotives, then?"

He clapped me on the shoulder and nodded.

"By the way, Hel, I won't be at the meeting today. Blenheim just called up. Wants to see me."

Hel indicated surprise.

"Look, I know he's a crackpot. You don't have to pocket-diary me, I know he's nuts. But he's also technically still the Director. Our boss. They haven't taken him off the payroll, just put him on sick leave. Besides, he used to have a lot of good ideas."

Hel took out a felt-tip pen and began to doodle with some sarcasm. The fact was, Blenheim had completely lost his grip during his last

year at the Institute. Before the government forced him to take leave, he'd been spending half a million a year in developing, rumors said, glass pancakes. And who could forget his plan to arm the police with chocolate revolvers?

"Sure, he's had a bad time, but he's better now," I said without conviction.

Institute people never get better, Hel seemed to retort. They just keep on making bigger and better decisions, with more and more brilliance and finality, until they break. Like glass pancakes giving out an ever purer ring, they explode.

It was true. Like everyone else here, I was seeing Dr Grobe, our resident psychiatrist, several times a week. Then there were cases beyond even the skill of Dr Grobe: Joe Feeney, who interrupted his work (on the uses of holograms) one day to announce that he was a file cabinet. Edna Bessler, who believed that she was being pursued by a synthetic *a priori* proposition. The lovely entomologist Pawlie Sutton, who just disappeared. And George Hoad, whose rocket research terminated when he walked into the Gents one day and cut his throat. George spent the last few minutes of consciousness vainly trying to mop up the bloody floor with toilet paper. . .

Something was wrong with the personnel around this place, all right. And I suspected that our little six-legged masters knew more about

this than they were saying.

Finally I mumbled, "I know it's useless, Hel. But I'd better find out what he wants."

You do what you think is best, Hel thought. He stalked out of my office, then, examining the point on his red pencil.

THE BUG was a cockroach, *P. americana*. It sauntered across the wall until it reached the curly edge of a wall poster, then it flew about a foot to land on the nearest dark spot. This was Uncle Sam's right eye. Uncle Sam, with his accusing eyes and finger, was trying to recruit men for the Senate and House of Representatives. On this poster, he said, "The Senate Needs MEN". So far, the recruiting campaign was a failure. Who could blame people for not wanting to go on the "firing line" in Washington? The casualty rate of Congressmen was thirty per cent annually, and climbing, in spite of every security measure we could think of.

Which reminded me of work. I scrubbed off the blackboard and started laying out a contingency tree for Project Pogo, a plan to make the whole cabinet—all 143 secretaries—completely mobile, hence, proof against revolution. So far the Security Secretary didn't care for the idea of "taking to our heels", but it was cheaper to keep the cabinet on the move than to guard them in Washington.

The cockroach, observing my industry, left by a wall ventilator, and I breathed easier. The contingency tree didn't look so interesting by now, and out the window I could see real trees.

The lawn rolled away down from the building to the river (not the Orinoco, despite our name). The far bank was blue-black with pines, and the three red maples on our lawn, this time of year, stood out like three separate, brilliant fireballs. For just the duration of a bluejay's flight from one to another, I could forget about the stale routine, the smell of chalkdust.

I remembered a silly day three years ago, when I'd carved a heart on one of those trees, with Pawlie Sutton's initials and my own.

Now a security guard strolled his puma into view. They stopped under the nearest maple and he snapped the animal's lead. It was up the trunk in two bounds, and out of sight among the leaves. While that stupid-faced man in uniform looked up, the fireball shook and swayed above him. A few great leaves fell, bright as drops of blood.

Now what was *this* headache going to be about?

ALL THE BIG problems were solved, or at least we knew how to solve them. The world was just about the way we wanted it, now, except we no longer seemed to want it just that way. That's how Mr How-

ell, the Secretary of Personal Relationships, had put it in his telecast. What was missing? God, I think he said. God had made it possible for us to dam the Amazon and move the Orinoco, to feed India and dig gold from the ocean floor and cure cancer. And now God—the way Howell said it made you feel that He, too was in the Cabinet—God was going to help us get down and solve our personal, human problems. Man's inhumanity to man. The lack of communication. The hatred. God and Secretary Howell were going to get right down to some committee work on this. I think that was the telecast where Howell announced the introduction of detention camps for "malcontents". Just until we got all of our personal problems ironed out. I had drawn up plans for these camps that summer. Then George Hoad borrowed my pocket knife one day and never gave it back. Then the headaches started.

As I stepped outside, the stupid-faced guard was looking up the skirt of another tree.

"Prrt., prrt" he said quietly, and the black puma dropped to earth beside him. There was something hanging out of its mouth that looked like a bluejay's wing.

"Good girl. Good girl."

I hurried away to the helicopter.

DREW BLENHEIM'S tumbledown mansion sits in the middle of a

withered woods. For half a mile around, the trees are laced together with high-voltage fence. Visitors are blindfolded and brought in by helicopter. There are also rumors of minefields and other security measures. At that time, I put it all down to Blenheim's paranoia.

The engine shut down with the sound of a coin spinning to rest. Hands helped me out and removed my blindfold. The first thing I saw, hanging on a nearby stretch of fence, was a lump of bones and burnt fur from some small animal. The guards and their submachine-guns escorted me only as far as the door, for Blenheim evidently hated seeing signs of the security he craved. The house looked dismal and decayed—the skull of some future Orinoco Institute?

A servant wearing burnt cork makeup and white gloves ushered me through a dim hallway that smelled of hay and on into the library.

"I'll tell Mr Blenheim you're here, sir. Perhaps you'd care to read one of his monographs while you wait?"

I flicked through *The Garden of Regularity* (a slight tract recommending that older people preserve intestinal health by devouring their own dentures) and opened an insanely boring book called *Can Bacteria Read?* I was staring uncomprehendingly at one of its pages when a voice said:

"Are you still here?" The plump

old woman had evidently been sitting in her deep chair when I came in. As she craned around at me, I saw she had a black eye. Something was wrong with her hair, too. "I thought you'd left by now—oh, it's you."

"Madame, do I know you?"

She sat forward and put her face to the light. The black eye was tattooed, and the marcelled hair was really a cap of paper, covered with wavy ink lines. But it was Edna Bessler, terribly aged.

"You've changed, Edna."

"So would you, young man, if you'd been chased around a nuthouse for two years by a synthetic *a priori* proposition." She sniffed. "Well, thank heavens the revolution is set for tomorrow."

I laughed nervously. "Well, Edna, it certainly is good to see you. What are you doing here, anyway?"

"There are quite a few of the old gang here: Joe Feeney and—and others. This place has become a kind of repair depot for mad futurologists.

Blenheim is very kind, but of course he's quite mad himself. Mad as a wet hen. As you see from his writing."

"*Can Bacteria Read?* I couldn't read it."

"Oh, he thinks that germs are, like people, amenable to suggestion. So, with the proper application of mass hypnosis among the microbe populations, we ought to be able to

cure any illness with any quack remedy."

I nodded. "Hope he recovers soon. I'd like to see him back at the Institute, working on real projects again. Big stuff, like the old days. I'll never forget Drew Blenheim, the man who invented satellite dialing."

Satellite dialing came about when the malcontents were trying to jam government communications systems, cut lines and blow up exchange offices. Blenheim's system virtually made each telephone a complete exchange in itself, dialling directly through a satellite. Voice signals were compressed and burped skywards in short bursts that evaded most jamming signals. It was an Orinoco Institute triumph over anarchy.

Edna chuckled. "Oh, he's working on real projects again. I said he was mad, not useless. Now if you'll help me out of this chair, I must go fix an elephant."

I was sure I'd misheard this last. After she'd gone, I looked over a curious apparatus in the corner. Parts of it were recognizeable—a clock inside a parrot cage, a gas laser, and a fringed shawl suspended like a flag from a walking-stick thrust into a watermelon—but their combination was baffling.

At 4:43 by the clock in the cage, the blackface servant took me to a gloomy great hall place, scattered with the shapes of easy chairs and sofas.

A figure in a diving suit rose from the piano and waved me to a chair. Then it sat down again, flipping out its airhoses behind the bench.

For a few minutes I suffered through a fumbling version of some Mexican tune. But when Blenheim—no doubt it was he—stood up and started juggling oranges, I felt it was time to speak out.

"Look, I've interrupted my work to come here. Is this all you have to show me?"

One of the oranges vaulted high, out of sight in the gloom above; another hit me in the chest. The figure opened its faceplate and grinned. "Long time no see, Hank."

It was me.

"RUBBER MASK," Blenheim explained, plucking at it. "I couldn't resist trying it on you, life gets so tedious here. Ring for Rastus, will you? I want to shed this suit."

We made small talk while the servant helped him out of the heavy diving suit. Rather, Blenheim rattled on alone; I wasn't feeling well at all. The shock of seeing myself had reminded me of something I should remember, but couldn't.

"... to build a heraldry vending machine. Put in a coin, punch out your name, and it prints a coat-of-arms. Should suit those malcontents, eh? All they probably really want is a coat-of-arms."

"They're just plain evil," I said. "When I think of how they bombed poor Hel Rassmussen's office—"

"Oh, he did that himself. Didn't you know?"

"A suicide attempt? So that explains the hysterical paralysis!"

My face looked exasperated, as Blenheim peeled it off. "Is that what Dr Grobe told you? Paralyzed, hell, the blast blew his face clean off. Poor Hel's present face is a solid plate of plastic, bolted on. He breathes through a hole in his shoulder and feeds himself at the armpit. If Grobe told you any different, he's just working on your morale."

From upstairs came a kind of machine-gun clatter. The minstrel servant glided in with a tray of drinks.

"Oh, Rastus. Tell the twins not to practice their tap-dancing just now, will you? Hank looks as if he has a headache."

"Yes, sir. By the way, the three-legged elephant has arrived. I put it in the front hall. I'm afraid the prosthesis doesn't fit."

"I'll fix it. Just ask Jumbo to lean up against the wall for half an hour."

"Very good, sir."

After this, I decided to make my escape from this Bedlam.

"Doesn't anybody around here ever do anything straightforward or say anything in plain English?"

"We're trying to tell you something, Hank, but it isn't easy. For

one thing, I'm not sure we can trust you."

"Trust me for what?"

His twisted face twisted out a smile. "If you don't know, then how can we trust you? But come with me to the conservatory and I'll show you something."

We went to a large room with dirty glass walls. To me it looked like nothing so much as a bombed-out workshop. Though there were bags of fertilizer on the floor, there wasn't a living plant in sight.

Instead, the tables were littered with machinery and lab equipment: jumbles of retorts and colored wires and nuts and bolts that made no sense.

"What do you see, Hank?"

"Madness and chaos. You might as well have pears in the light sockets and a banana on the telephone cradle, for all I can make of it."

He laughed. "That's better. We'll crazify you yet."

I pointed to a poster-covered cylinder standing in the corner. One of the posters had Uncle Sam, saying: "I Need MEN for Congress".

"What's that Parisian advertising-kiosk doing here?"

"Rastus built that for us, out of scrap alloys I had lying around. Like it?"

I shrugged. "The top's too pointed. It looks like—"

"Yes, go on."

"This is silly. All of you need a few sessions with Dr Grobe," I said. "I'm leaving."

"I was afraid you'd say that. Hank. But it's you who needs another session with Dr Grobe."

"You think I'm crazy?"

"No, you're too damned sane."

"From your viewpoint, yes!" I shouted. "Why bother with all that security outside? Afraid someone will steal the idea of a minstrel show or the secret of a kiosk?"

He laughed again. "Hank, those guards aren't to keep strangers out. *They're to keep us in.* You see, my house really and truly is a madhouse."

I stamped out a side door and ordered my helicopter.

"My head's killing me," I told the guard. "Take it easy with that blindfold."

"Oh, sorry, mac. Hey, look, it's none of my business, but what did you do with that tree you brung with you?"

"Tree?" God, even the guards were catching it.

THAT EVENING I went to see Dr Grobe.

"Another patient? I swear, I'm going to install a revolving door on this office. Sit down, Uh, Hank LaFarge, isn't it? Sit down, Hank. Let's see. . .oh, you're the guy who's afraid of cockroaches, right?"

"Not exactly afraid of them. In fact they remind me of someone I used to be fond of. Pawlie Sutton used to work with them. But my

problem is, I know that cockroaches are the real bosses. We're just kidding ourselves with our puppet government, our Uncle Sham—"

He chuckled appreciatively.

"But what 'bugs' me, doctor, is that nobody will recognize this plain and simple truth."

"Ah-ah. Remember, last time you agreed to call me by my first name, Hank."

"Sorry. Sorry, uh, Oddpork." I couldn't imagine anyone with that first name wanting to be called by it, unless he wanted to get used to it himself. He was an odd-pork of a man, too: plump and rumpy, with over-large hands that never stopped adjusting his already well-adjusted clothes. He always looked surprised at everything I said, even "hello." Every session, he made the same joke about the revolving door.

Still, repetitive jokes help build up a family atmosphere, which was probably what he wanted. There was a certain comfort in this stale world of no surprises. Happy families are all alike, and their past is exactly like their future.

"Hank, I haven't asked you directly about your cockroach theory before, have I? Want to tell me about it?"

"I know it sounds crazy at first. For one thing, cockroaches aren't very smart, I know that. In some ways, they're stupider than ants. And their communication equipment isn't much, either. Touch and smell, mainly. They aren't naturally

equipped for conquering the world."

Oddpork lit a cigar and leaned back, looking at the ceiling. "What do they do with the world when they get it?"

"That's another problem. After all, they don't *need* the world. All they need is food, water, a fair amount of darkness and some warmth. But there's the key, you see?

"I mean, we humans have provided for all of these needs, for many centuries. Haphazardly, though. So it stands to reason life would be better for them if we worked for them on a regular basis. But to get us to do that, they have to take over first."

He tried to blow a smoke ring, failed, and adjusted his tie. "Go on. How do they manage this takeover?"

"I'm not sure, but I think they have help. Maybe some smart tinkerer wanted to see what would happen if he gave them good long-distance vision. Maybe he was so pleased with the result that he taught them to make semaphore signals with their feelers. The rest is history."

Dusting his lapel, Dr Grobe said, "I don't quite follow. Semaphore signals?"

"One cockroach is stupid. But a few thousand of them in good communication could make up a fair brain. Our tinkerer probably hastened that along by intensive

breeding and group learning problems, killing off the failures. . . It would take ten years at the outside."

"Really? And how long would the conquest of man take? How would the little insects fare against the armies of the world?"

"They never need to try. Armies are run by governments, and governments are run, for all practical purposes, by small panels of experts. Think tanks like the Orinoco Institute. And—this just occurred to me—for all practical purposes, you run the Institute."

For once, Dr Grobe did not look surprised. "Oh, so I'm in on the plot, am I?"

"We're all so crazy, we really depend on you. You can ensure that we work for the good of the cockroaches, or else you can get rid of us—send us away, or encourage our suicides."

"Why should I do that?"

"Because *you* are afraid of them."

"Not at all." But his hand twitched, and a little cigar ash fell on his immaculate trousers. I felt my point was proved.

"Damn. I'll have to sponge that. Excuse me."

He stepped into his private washroom and closed the door. My feeling of triumph suddenly faded. Maybe I was finally cracking. What evidence did I really have?

On the other hand, Dr Grobe was taking a long time in there. I stole

over to the washroom door and listened.

"...verge of suicide. . .," he murmured. "...yes. . .give up the idea, but. . .yes, that's what I. . ."

I threw back the door on a traditional spy scene. In the half-darkness, Dr G hunched over the medicine cabinet, speaking into a microphone. He wore earphones.

"Hank, don't be a foo—"

I hit him, not hard, and he sat down on the edge of the bathtub. He looked resigned.

"So this is my imagined conspiracy, is it? Where do these wires lead?"

They led inside the medicine cabinet, to a tiny apparatus. A dozen brown ellipses had clustered about it, like a family around the TV.

"Let me explain," he said.

"Explanations are unnecessary, doctor. I just want to get out of here, unless your six-legged friends can stop me."

"They might. So could I. I could order the guards to shoot you. I could have you put away with your crazy friends. I could even have you tried for murder, just now."

"Murder?" I followed his gaze back to the office. From under the desk, a pair of feet. "Who's that?"

"Hel Rasmussen. Poisoned himself a few minutes before you came in. Believe me, it wasn't pleasant, seeing the poor fellow holding a bottle of cyanide to his armpit. He left a note blaming you, in a way."

"Me!"

"You were the last straw. This afternoon, he saw you take an ax and deliberately cut down one of those beautiful maple trees in the yard. Destruction of beauty—it was too much for him."

Trees again. I went to the office window and looked out at the floodlit landscape. One of the maples was missing.

Dr Grobe and I sat down again at our respective interview stations while I thought this over. Blenheim and his mask came into it, I was sure of that. But why?

DR GROBE fished his lifeless cigar from the ashtray. "The point is, I can stop you from making any trouble for me. So you may as well hear me out." He scratched a match on the sole of Hel's shoe and relit the cigar.

"All right, Oddpork. You win. What happens now?"

"Nothing much. Nothing at all. If my profession has any meaning, it's to keep things from happening." He blew out the match. "I'm selling ordinary life. Happiness, as you must now see, lies in developing a pleasant, comfortable and productive routine—and then sticking to it. No unpleasant surprises. No shocks. Psychiatry has always aimed for that, and now it is within our grasp. The cockroach conspiracy hasn't taken over the world, but it has taken over the Institute—and it's our salvation.

"You see, Hank, our bargain isn't one-sided. We give them a little shelter, a few scraps of food. But they give us something far more important: real organization. *The life of pure routine.*"

I snorted. "Like hurrying after trains? Or wearing ourselves out on assembly line work? Or maybe grinding our lives away in boring offices? Punching time clocks and marching in formation?"

"None of the above, thank you. Hank, cockroaches never hurry to anything but dinner. They wouldn't march in formation except for fun. They are free—yet they are part of a highly organized society. And this can be ours."

"If we're all put in detention camps."

"Listen, those camps are only a stage. So what if a few million grumblers get sterilized and shut away for a year or two? Think of the *billions* of happy, decent citizens, enjoying a freedom they have earned. Someday, every man will live exactly as he pleases—and his pleasure will lie in serving his fellow men."

Put like that, it was persuasive. Another half-hour of this and I was all but convinced.

"Sleep on it, eh, Hank? Let me know tomorrow what you think." His large hand on my shoulder guided me to the door.

"You may be right," I said, smiling back at him. I meant it, too. Even though the last thing I

saw, as the door closed, was a stream of glistening brown that came from under the washroom door and disappeared underneath the desk.

I SAT UP in my own office most of the night, staring out at the maple stump. There was no way out: Either I worked for *Periplaneta americana* and gradually turned into a kind of moral cockroach myself, or I was killed. And there were certain advantages to either choice.

I was about to turn on the video recorded to leave a suicide note, when I noticed the cassette was already recorded. I ran it back and played it.

Blenheim came on, wearing my face and my usual suit.

"They think I'm you, Hank, dictating some notes. Right now you're really at my house, reading a dull book in the library. So dull, in fact, that it's guaranteed to put you into a light trance. When I'm safely back, Edna will come in and wake you.

"She's not as loony as she seems. The black eye is inked for her telescope, and the funny cap with lines on it, that looks like marcelled hair, that's a weathermap. I won't explain why she's doing astronomy—you'll understand in time.

"On the other hand, she's got a fixation that the stars are nothing but the shiny backs of cockroaches, treading around the heavenly

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spheres. It makes a kind of sense when you think about it: *Periplaneta* means around the world, and jamerica being the home of the Star-Spangled Banner.

"Speaking of national anthems, Mexico's is La Cucaracha—another cockroach reference. They seem to be taking over this message!

"The gang and I have been thinking about bugs a lot lately. Of course Pawlie has always thought about them, but the rest of us. . ." I missed the next part. So Pawlie was at the madhouse? And they hadn't told me?

" . . . when I started work on the famous glass pancakes. I discovered a peculiar feature of glass discs, such as those found on clock faces.

"Say, you can do us a favor. I'm coming around at dawn with the gang, to show you a gadget or two. We haven't got all the bugs out of them yet, but—will you go into Dr Grobe's office at dawn, and check the time on his clock? But first, smash the glass on his window, will you? Thanks. I'll compensate him for it later.

"Then go outside the building, but on no account stand between the maple stump, and the broken window. The best place to wait is the little bluff to the North, where you'll have a good view of the demonstration. We'll meet you there.

"Right now you see our ideas darkly, as through a pancake, I guess. But soon you'll understand.

You see, we're a kind of cockroach ourselves.

I mean, living on scraps of sanity. We have to speak in parables and work in silly ways because *they* can't. *They* live in a comfortable kind of world where elephants have their feet cut off to make umbrella stands. We have to make good use of the three-legged elephants, and other left-overs.

"Don't bother destroying this cassette. It won't mean a thing to any right-living insect."

It didn't mean much to me, not yet. Cockroaches in the stars? Clocks? There were silly questions I had to ask.

THERE WAS ONE question I'd already asked, that still needed an answer. Pawlie had been messing around in her lab, when I asked her to marry me. Two years ago, was it? Or three?

"But you don't like cockroaches," she said.

"No, and I'll never ask a cockroach for its claw in marriage." I looked over her shoulder into the glass cage. "What's so interesting about these?"

"Well, for one thing, they're not laboratory animals. I caught them myself in the basement here at the Institute. See? Those roundish ones are the numphs—sexless adolescents. Cute, aren't they?"

I had to admit they were. A little.

"They look like the fat black exclamation points in comic strips," I observed.

"They're certainly healthy, all of them. I've never seen any like them. I—that's funny." She went and fetched a book, and looked from some illustration to the specimens behind glass.

"What's funny?"

"Look, I'm going to be dissecting the rest of the afternoon. Meet you for dinner. Bye."

"You haven't answered my question, Pawlie."

"Bye."

That was the last I saw of her. Later, Dr Grobe put it about that she'd been found in some distant city, hopelessly insane. Still later, George Hoad cut his throat.

THE FLOODLIGHTS went off, and I could see dawn grayness and mist. I took a can of beans and went for a stroll outside.

One of the guards nodded a wary greeting. They and their cats were always jumpy at this time of day.

"Everything all right, officer?"

"Yeah. Call me crazy, but I think I just heard an elephant."

When he and his puma were out of sight, I heaved the can of beans through Dr Grobe's lighted window.

"What the hell?" he shouted. I slipped back to my office, waited a few minutes, and then went to see him.

A slender ray came through the

broken window and struck the clock on the opposite wall. Grobe sat transfixed, staring at it with more surprise than ever. And no wonder, for the clock had become a parrot.

"Relax, Oddpork," I said. "It's only some funny kind of hologram in the clock face, worked by a laser from the lawn. You look like a comic villain, sitting there with that cigar stub in your face."

The cigar stub moved. Looking closer, I saw it was made up of the packed tails of a few cockroaches, trying to force themselves between his closed lips. More ran up from his spotless collar and joined them, and others made for his nostrils. One approached the queue at the mouth, found a comrade stuck there, and had a nibble at its kicking hind leg.

"Get away! Get away!" I gave Grobe a shake to dislodge them, and his mouth fell open. A brown flood of kicking bodies tumbled out and down, over his well-cut lapels.

I HAD STOPPED shuddering by the time I joined the others on the bluff. Pawlie and Blenheim were missing. Edna stopped scanning the horizon with her brass telescope long enough to introduce me to the pretty twins, Alice and Celia. They sat in the grass beside a tangled heap of revolvers, polishing their patent-leather tap shoes.

The ubiquitous Rastus was wiping off his burnt cork makeup. I

asked him why.

"Don't need it anymore. Last night it was my camouflage. I was out in the woods, cutting a path through the electric fence. Quite a wide path, as you'll understand."

He continued removing the black until I recognized the late George Hoad.

"George! But you cut your throat, remember? Mopping up blood—"

"Hank, that was your blood. It was you who cut your throat in the Gents, after Pawlie vanished. Remember?"

I did, giddily. "What happened to you, then?"

"Your suicide attempt helped me make up my mind; I quite the Institute next day. You were still in the hospital."

Still giddy, I turned to watch Joe Feeney operating the curious laser I'd seen in the library. Making parrots out of clocks.

"I understand now," I said. "But what's the watermelon for?"

"Cheap cooling device."

"And the 'flag'?" I indicated the shawl-stick arrangement.

"To rally round. I stuck it in the melon because the umbrella stand was in use. They were trying to use it—"

"Look!" Edna cried. "The attack begins!" She handed me a second telescope.

All I saw below was the lone figure of Blenheim in his diving suit, shuffling slowly up from the river

mist to face seven guards and two pumas.

He seemed to be juggling croquet balls.

"Why don't we help him?" I shouted. "Don't just sit here shining shoes and idling."

The twins giggled. "We've already helped some," said Alice, nodding at the pile of weapons.

"We made friends with the guards."

I got the point when those below pulled their guns on Blenheim. As each man drew, he looked at his gun and then threw it away.

"What a waste," Celia sighed. "Those guns are made from just about the best chocolate you can get."

Blenheim played his parlor trick on the nearest guard: One juggled ball flew high, the guard looked up, and a second ball clipped him on the upturned chin.

Now the puma guards went into action.

"I can't look," I said, my eye glued to the telescope. One of the animals stopped to sniff at a sticky revolver, but the other headed straight for his quarry. He leapt up, trying to fasten his claws into the stranger's big brass head.

Out of the river mist came a terrible cry, and then a terrible sight: a hobbling gray hulk that resolved into a charging elephant.

Charging diagonally, so it looked even larger.

The pumas left the scene. One

fled in our direction until Alice snatched up a pistol and fired it in the air. At that sound, the guards decided to look for jobs elsewhere. After all, as Pawlie said later, you can't expect a man to face a juggling diver *and* a mad elephant with a wooden leg, with nothing but a chocolate .38, not on *their* wages.

Pawlie was riding on the neck of the elephant. When he came to a wobbling stop I saw that one of Jumbo's forelegs was a section of tree with the bark still on it. And in the bark, a heart with PS + HL, carved years before.

I felt the triumph was all over—especially since Pawlie kept nodding her head yes at me—until George said:

"Come on, gang. Let's set it up."

Jumbo had been pulling a wooden sledge, bearing the Paris kiosk.

Now he went off to break his fast on water and grass, while the rest of us set the thing upright. Even before we had fuelled it with whatever was in the fertilizer bags, I guessed that it was a rocket.

After some adjustments, the little door was let down, and a sweet, breakfast pancake odor came forth. Joe Feeney opened a flask of dark liquid and poured it in the entrance. The smell grew stronger.

"Maple sap," he explained. "From Jumbo's wooden leg. Mixed with honey. And there's oatmeal inside. A farewell breakfast."

I looked in the little door and saw the inside of the ship was made like a metal honeycomb, plenty of climbing room for our masters.

Pawlie came from the building with a few cockroaches in a jar, and let them taste our wares. Then, all at once, it was a safe opening at any big department store. We all stood back and let the great brown wave surge forward and break over the little rocket.

Some of them, nymphs especially, scurried all the way up to the nose cone and back down again in their excitement. It all looked so jolly that I tried not think of their previous meals.

Edna glanced at her watch. "Ten minutes more," she said. "Or they'll hit the sun."

I objected that we'd never get all of them loaded in ten minutes.

"No," said Pawlie. "But we'll get the best and strongest. The shrews can keep the rest in control."

Edna closed the door, and the twins did a vigorous tap-dance on the unfortunate stragglers.

A few minutes later, a million members of the finest organization on earth were on their way to the stars.

"To join their little friends," said Edna.

Pawlie and I touched hands, as Blenheim opened his faceplate. "I've been making this study," he said, "of spontaneous combustion in giraffes. . ."

★

BOOKSHELF



SPIDER VERSUS THE HAX OF SOL III

I'M SORRY. I just can't help it. I just have that kind of mind, and there's nothing I can do about it. When Jim Baen asks me for a guest review, all I can visualize is a psychopathic butler, ex-Army no doubt, who instead of announcing the guests as they arrive, lines them up and begins inspecting them for flaws. "Suck in that gut, sister. You there, call that a shave?" I'm sorry, honest.

So here's a guest review, Jim.

Laurels first, then brickbats, with the white elephant saved for last. I'm sorry to say that there are no perfect books waiting for you at

your bookstore this month, genties and ladlemen. But some come closer than others.

Closest is *Deathbird Stories* by Harlan Ellison (Harper & Row, price unknown). This, friends, is one king hell collection of gut-punching, groin-kicking, arm-breaking short stories, subtitled "A Pantheon of Modern Gods" and dedicated to the proposition that if gods die when their followers stop believing, then gods are born when beliefs crystalize. Harlan takes a look at some of the gods we're raising up these days, and makes it quite clear that we'd better start

learning how to placate them, like pronto. Written over a period of ten years, the stories are superbly crafted and chillingly effective, the kind of which Heinlein once said that you should serve a whisk-broom with every shot, so that the customer can brush the sawdust off him when he gets back up. But in the three or four times I've met Harlan, I've noticed a severe strain on our relationship in that he has nothing to bitch at me about, and so I ought to add some beefs.

First, most of these stories will probably already be familiar to you (a margarine dildo to the first reader who can name an anthology of anything by anyone in the past year that *hasn't* contained *Deathbird*), reminding one of those ten Billy Holiday albums with three albums worth of songs endlessly shuffled and re-dealt. "Maggie Moneyeyes," "Along the Scenic Route," "Paingod" and "Shattered Like A Glass Goblin" aren't exactly obscure, for instance.

But thass alright—somehow all these stories do belong thematically in one book. My main beef is that *all* of Harlan's new gods are scary. Pessimism is okay—but unrelieved pessimism seems a little unrealistic. Maybe all that's on the other side is the sixteen-year-old perfect goombah and his divine Maserati, but why don't we take a look?

But how can you complain about a book that has "Whimper of Whipped Dogs" in it?

NEXT IN LINE is *The Shockwave Rider* (Harper & Row, price unknown—while this latter phrase reoccurs frequently because I'm working from galleys, for obvious reasons I can't abbreviate it) by John Brunner, a Spring '75 selection for the SF Book Club. This one had seeds of greatness, but maybe it needed more vermiculite. It's not a bad book—and Jesus knows I don't want to join the "it ain't as good as *Stand On Zanzibar*" ranks—but somehow it just misses. Close though.

The protagonist is Nickie Haflinger, who was drafted as a child into the government's behaviorist-oriented genius factory, Tarnover. Not content with encouraging natural geniuses to mature, the directors of this institution are attempting to grow genetically-modified geniuses from ova in the laboratory. As a young man Nickie stumbles across a deformed and imbecile Mark I, becomes disillusioned with behaviorism and splits, removing himself from the national data-net and establishing a succession of aliases with a stolen computer-code, dedicating himself to the overthrow of Tarnover and all it stands for. A dandy plot, and one that in Brunner's hands should have been Hugo material. I dunno; maybe he was in a hurry. Both his villains and the community of Precipice (Tarnover's underground antithesis) are cut from cardboard, and there are a series of debate-lectures

between Nickie and the government interrogator who's wringing out his memory that just don't ring true.

But the book reads well all the same. Individual sections are often brilliant, in the way that John seems to have copyrighted, and the message is incisive and timely. But as a story it limps. So call it the worst book he's written in five years, and you've still put it two notches above average. It kept me turning the page, and its closing question has yet to be answered.

ONWARD to a pleasant surprise. Somehow or other I got on Doubleday's SF review list a couple of years back, and as a result my stove here in Nova Scotia has never lacked for fire-starter. Honest to God, you never saw such dreck in your life. Comic-books without the pictures. But I hear they've got a new SF editor lately, and here on my desk, by Jesus, is an actual first-rate science-fiction novel from Doubleday, *Newton and the Quasi-Apple*, by Stanley Schmidt. I'd never have read it if I hadn't recognized Stanley's name from some fine stories in *Analog*, but I'm glad I gave it a chance. The planet of Ymrek, see, is at a crisis point in its cultural development. The civilized types in the city of Yngmer are threatened by the barbarian Ketaxil, and have for defense only crude cannon which they don't know how to aim very well. A pair

of human xenologists reluctantly decide to interfere by giving the Yngmerians technological aid in the form of "quasi-matter," a wondrous stuff they hope to pass off as "nothing more than simple magic." Unfortunately, at the same time a native genius named Terek has singlehandedly duplicated the work of Copernicus, Galileo and Newton, deducing laws of motion with which *he* hopes to save the day by inventing ballistics, to aim the cannon better. The local shaman reacts little better than did Galileo's inquisitors, and just as Terek has begun to convince him that perhaps *il se muovo* after all, in come the xenologists—with quasimatter trinkets that don't obey Newton's Laws! Poor Terek is ceremonially proclaimed a Dunce, and the rest of the book deals with the attempts of the meddling but well-intentioned xenologists to set things right. It's a dandy, and I'm proud of Stanley for his refusal to yield to temptation and pull rabbits out of a hat for an ending.

My only complaint is his failure to explain quasimatter rather than simply describe it—but as a man with a trunkfull of letters saying, "your last story was great—but of course it's not science fiction," possibly I should shut up. Tasty stuff, Stan.

CLIFF SIMAK's new book, *Enchanted Pilgrimage* (Putnam-

Berkley) is another one of those that gave me mixed feelings. If there's a sequel planned, I withdraw most of my objections, but as it stands it raises more questions than it answers.

To say that it's well written would be more unnecessarily redundant than is absolutely called for—it is, after all, a Simak. The characters are well-drawn, the menaces chilling, the succession of events compelling. But the book frustrates me, dammit. The first half reads like pure alternate-universe sword-and-sorcery—a little strange for Cliff, but what the hell. In this alternate universe men have never really left the Middle Ages, and goblins, trolls, elves and unicorns festoon the countryside. A quest is undertaken (incidentally, quests involving a chalice or grail are a separate subgenre called cup-and-sorcery) by a band of good joes. Fine.

Then halfway through the book, a modern-day human appears from our time-stream, complete with firestick and a Honda dragon, and one not unnaturally assumes that some of the strange goings-on are going to get mundane explanations. Only some do, and some don't, and one of the most impressive menaces turns out for no apparent reason to be an alien, which dies in giving birth to a robot (!) that seems to do nothing to advance the plot. We learn that there are *three* alternate universes (why only three?) and that

the third of these is a "humanist" world in which all the problems of man have been solved—but all we ever get to see of it is two characters who appear only by rumor. Nor do we ever learn how travel between the universes is managed, nor why only one not-especially-bright inhabitant of our own time-stream (named Jones, forsooth) pulled it off. Worst, the quest turns out to have been a wild-goose chase for all but one of its members.

Oh hell—Cliff is just too good a craftsman to leave such gaping holes in the foundations: there *has* to be a sequel. But I wish there'd been words to that effect somewhere in the galleys.

THE MISSING MAN in Katherine MacLean's book of the same name (Putnam-Berkley) seems to be the protagonist—the one we are given just doesn't seem real to me. No, amend that: he seems real for the first chapter (which, if my memory serves, appeared somewhere or other as a novelette—and a damned good one) and then vanishes, leaving behind a cardboard simulacrum. There's just no consistency to his character: he's an ex-teengang member, big and strong when the plot requires it, but most of the time he acts like a timid chump; he is a professional empath, and yet he gets suckered into buying the metaphysics of a sociopath gang

leader with nary a quiver. And the final group of villains to be dragged onstage, comic-opera Com-Yew-Nists Who Want To Make The World A Conformist Utopia So They Can Power Trip Us (but get this: they're telepathic, see. . .) went down like two tablespoons of peanut butter.

Which leaves me astounded. For years I have watched Kate MacLean write circles around a large lot of folks, and upon receiving the first novel I've seen by her I rejoiced, expecting something above average. But this is barely adequate. The first chapter, in which we meet George, the high-sensitivity empath who works as a locator for the Rescue Squad, is really excellent—but the book as a whole lacks an internal consistency somehow, and suspending that disbelief starts to give you cramps. I'm disappointed. In view of what Memphis Slim once termed the pay sitchy-ation, I'm reluctant to suggest that anybody stick to short stories, but this just doesn't work as a novel. I don't object to a simple series-of-episodes—but the cast should be continuous.

GETTING NEAR the bottom, now. Funny SF novels, when they work, are among the funniest things ever written: e.g., Niven & Gerrold's *The Flying Sorcerer*, a sizable chunk of Keith Laumer's work, and the new Bester novel. Some are a trifle strained, but still make you

giggle consistently: e.g. Bob Toomey's *World of Trouble*. And some are as strained as the stuff that goes in I.V. bottles: e.g., *The Willk Are Among Us*, by Isidore Haiblum (Doubleday, \$5.95).

Since Stan Schmidt's book had turned out so well, I decided to try the one that came with it; but when I got to the part where the ferocious and homicidal *nill* says to the alien protagonist, "If I wasn't a bit under the weather, and you didn't have that crude mind-block on—really, under ordinary conditions it wouldn't do at all, you know—I'd give you such a hit!" I began to suspect that the stack of handkerchiefs I'd laid in against tears of laughter might be superfluous. Everybody in the book is named Leonard or Ernest or Marvin, extraterrestrials who've never heard of Earth call each other *boychik*, and at odd intervals Haiblum succumbs to Zelazny's Syndrome: the habit of stringing together sentence fragments.

As paragraphs.

In groups of six or seven.

For no discernible reason.

Like a freshman art student.

Making a collage.

Or some.

Thing.

Followed by two skipped lines and a block of more or less standard copy. There's a lot of action, a cast of thousands, and a plot that would confound a panel consisting of Keith Laumer, P.G. Wodehouse

and Avram Davidson, and if you use an Ashley wood-burning stove and don't subscribe to a newspaper you'll be interested to know that the hardcover edition fits snugly into the firebox and will support a good base of kindling and mixed hardwood. I recommend maple if you can get it.

AND SO AT LAST we come to Sprague de Camp's *Antique Shoppe*.

It is curious that the science-fiction community has produced people who make their living by looking backward, but science fiction is, after all, the literature of paradox; and lotsa guys are into *The Roots* and like that. I know there are a horde of you Lovecraft freaks out there, and maybe some of you are Trekkie-type groupies, and I really truly do believe that a reviewer has a duty to finish a book before publishing his views on it, but honest to Christ, Fellas. *The Life of H.P. Lovecraft* by L. Sprague de Camp (Doubleday, \$12.95) is simply above and beyond the call of whatever Baen is underpaying me. ["Sold!" he shrieked.—Ed.] It is no bigger than a Smith-Corona portable, clearly the result of a literally incredible amount of time and energy, and I tried, cross my heart. But do any of you really want to know that at the age of two, Lovecraft's golden curls led his landlady to call him "Little Sunshine"?

I have in my possession a volume

of comparable size, which was commissioned by New York State, printed at Taxpayers' expense in 1947, and bought by the same taxpayers for the State University Library system, from which I ultimately stole it, leaving behind five identical copies none of which has ever been checked out. It is an 800-page study of the ruffed grouse, a bird so stupid you can blow out the brains of one without disturbing the one next to it. It took six men to write, and one of the men later produced a 400-page sequel. I take it down from the shelf whenever I'm feeling especially useless and futile, and pore over the maps and graphs and close-ups of grouse droppings, and I feel better.

At long last I've found a companion volume.

If you're an English major who believes you must know the man to properly read and evaluate his works (don't laugh—I was one once) then by all means pick this book up—if you can (little joke there). If you're an Ashley user, I should advise you that the binding is damnably difficult to destroy, and it's too big to use all at once. If you're H.P. Lovecraft, let me know what you think of it.

AND SO OPENS 1975 in the SF publishing world. Me, I think I'm going to get back in the time-capsule and get some sleep. Wake me up when Heinlein's next book comes out, will you? Thanks. ★

An abstract graphic at the top of the page features three white circles of varying sizes against a dark background. A complex network of thin white lines crisscrosses the entire page, with some lines passing through the circles. The lines appear to be random or perhaps represent a technical or scientific diagram.

HELIUM

Arsen Darnay

WHAT HAS GONE BEFORE

A THOUSAND YEARS after a series of limited nuclear wars Americans have polarized into two groups—Structure-Folk, who live in huge constructions along the coasts (Union), and Tribesmen, who occupy Hinterland.

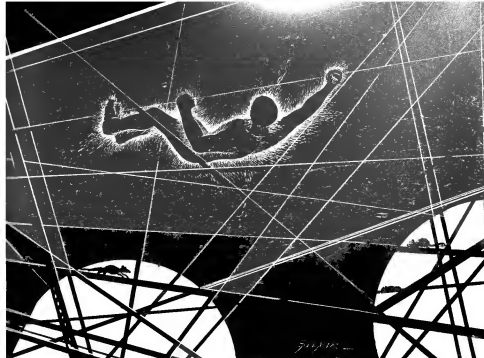
The urban structures reach three thousand meters into the sky and depend on the levitating effect of *gravitron*, a field-force generated in tower pits. Liquid Helium is needed to cool the gravitron reaction. In the absence of the gas, structure collapse is inevitable—Structure-Man's greatest dread.

The only economical source of

Helium is in Texahoma, an area controlled by the Ecofreak tribe. Tribesmen have a powerful anti-technology ideology-verging-on-religion, and to them Union is the incarnation of evil, but they are coerced into cooperation by Union's atomic power.

Union, however, must use this power sparingly lest it destroy the Helium extraction and distribution facilities. Moreover, Ecofreak demands high-ranking hostages who live in the most vulnerable tribal settlements, exposed to atomic attack along with the natives. The situation thus is one of precarious balance.

In the year 1056, MYCAL BONO arrives in Ricardo, capital



of Union. Bono and his delegation have come to renegotiate Helium Deliveries—a “Helium Round.” But this time Bono has a hidden objective—to obtain some electronic parts that the Activists, a radical group within the Ecofreak tribe who have recently gained power, need to bring to fruition their plan to throw off the structure-yoke once and for all.

Following a reception in one of Ricardo’s five towers, RIVERA FRENCH, intelligence chief of the Bureau of Tribal Affairs, reports to RESTON PROCTOR, Union’s Chief Negotiator and head of BTA. Both men are upset because Ecofreak’s Activist faction is an unknown quantity. In the past

BTA has always negotiated with Accommodationists. The men know nothing about Mycal Bono and not much more about JONNY TACK, Ecofreak’s ruthless young leader.

Mention of Tack reminds Proctor of a troublesome episode involving REGINA UNSLER, only daughter of Bernard Unsler, Union’s leader “the Unifier”. During a stay in Ricardo, Tack and Regina fell in love, suggesting to the Unifier the notion of a Grand Alliance between Union and Hinterland to be achieved by intermarriage—an idea abhorrent both to Proctor and to Jonny Tack’s father, both hardliners. The marriage didn’t come off.

Aside from the fact that the Activists represent an unknown quantity, Proctor is also worried because he is fomenting a plot to overthrow the Unsler dynasty—a move that will require Ecofreak help. Also, BLOTTINGHAM, Unsler's closest aide, has been unusually interested in the negotiations. Proctor instructs French to meet with ANDROS BARNEY, Ecofreak's permanent ambassador in Ricardo, to learn more about the tribe's strategy before the talks begin a week later.

Barney is a hold-over Accommodationist who wants to see Jonny Tack fail politically. He tricks FRANCO DART, an old man in Bono's group, into revealing that Ecofreak has developed a new device that inhibits nuclear reactions. Part of the device is a switch made of silcoplast (a cheap synthetic) welded to copper. Only Union can do the welding, which requires special facilities. Over some years Ecofreak could develop the welding technology, but Jonny Tack is impatient and wants to get the sil-parts in a hurry. Later Barney tells Rivera French enough to put Union on its guard.

After delivering the news to Proctor at a late-night ball game, French is attacked on his way home by a group of "flames," members of an upper-class cult led by SIDNEY UNSLER, the Unifier's son and heir. French kills one of the flames during a chase and escapes. The episode brings home to French again the fact that Sidney's power is growing as the Unifier's faculties slowly fail.

Sidney and his flames delight especially in ambushing and killing members of BTA. Sidney resents Proctor's power and popularity.

The traditional Opening Ball is held in Top Level, Unsler's domain, the following evening. French is present with MIRI, his wife—an artist and a member of a women's cult called Madonna.

Regina Unsler, who has been watching developments both with practical interest and with nostalgic memories of her love affair with Tack, arrives at the ball with a plan to secure her own escape from Union. Her brother Sidney has oppressed her, and under the tutelage of her spiritual advisor, SISTER SERENITA, she plans to escape to Hinterland. To do so she captivates Bono. Meanwhile she also snubs CLAFTO MEYER, a prominent flame and the man who, with others, attacked French the night before.

Bono has spent a painful week trying to adjust to the powerful gravitron vibrations in Ricardo (he belongs to the five percent of Tribesmen who find adjustment difficult).

During the week he has been plagued by a recurring memory of his youth, hunting the man-sized Harvey hare, a mutant rabbit whose escape mechanism is a cloying telepathic pulse of love. The hunter must overcome his affection to achieve a kill.

On the morning of the ball, Bono finally experienced release from pain. Now he is giddy and disoriented and promptly falls for Regina. When she invites him to

her domain he willingly complies—only to find her much less yielding in the privacy of her roof-top garden. Before she can yield herself, she says, she must have a sign of Bono's true affection. She demands that Bono request her as the Helium hostage of 1056. Only after she has seen the news on Media that he has done so will she be his.

Back at the ball, Clafto Meyer has recognized French from the night before. French and Miri flee from pursuing flames and manage to lose them, but only after another flame loses his life. They reach Top Level's parking lot where Miri hides in a jump tube (one-man transport) while French goes exploring. He discovers that the streets are blocked by flames.

Proctor, meanwhile is overcome with rage while he impotently watches the flames pursue French and Miri from the ballroom; he conceives a plan of retaliation against Sidney's Flames—"Operation Hairy Scary."

MEDITATION

FRENCH LAY ON THE BED in his underwear, one leg propped up. His eyes rested on Miri's dark silhouette. She stood by the foot of the bed and undressed before him in the half-light from the bath. The chaste gown fell to her waist. Then she dropped it to the floor and stepped out. Her arms went back to her back and her bra popped off. His eyes rested on her shadowy breasts. She wiggled out of panties and stood naked for a second, turned toward him, dressed only in a golden earring.

"I must meditate," she said.

French smiled and nodded, admiring her cool. They had just escaped death and had been shown into this dingy cubicle empty of furniture, but filled with an unusually strong gravitron hum. A cold and musty room. A late hour. Unusual circumstances. Nevertheless Miri remembered her spiritual chores.

She sank down to the floor. Over the bed's edge French saw her shoulders, neck, and face. Her eyes were closed. She sat with her legs crossed and her hands on her knees. In the mood of relaxation he now felt, the tense anxieties of the past hour still there like a residue at the bottom of his perceptions, her very posture aroused him. The physical alignment of her body signalled two kinds of receptivity—spiritual and sexual.

His face softened, and he watched his profile through eyes clouded with a kind of tenderness. He often watched her like this, thinking the same thought.

He waited a long time. Miri tripped out in a trance, her spirit in other dimensions. She sought the limpid light of truth, a state of quiescent calm. Such states came very rarely, she said. Instead she usually had visions—silly, prophetic, disturbing.

As he watched her, he saw again a faint light around her head—or thought he saw it. French was never certain whether or not Miri really radiated a kind of strange energy or whether he merely imagined it. To watch her meditate was itself a kind of meditation. It engendered images.

Devotee of the Cosmic Lady. . .

French knew next to nothing about the Cult. They taught magical practices—like this technique which draped Miri's head and shoulders in a nimbus of light. He swore he saw a light, although its subtle radiance faded when his concentration slipped. Secretive, the sisters of the Cult. They claimed and had very real powers. They claimed to see the future in visions or in books of oracles—but darkly, darkly. Not with the precision French needed for his work. Prophecy had its limits. They had a doctrine that thoughts took on reality if held with strong emotion. Ritual lustrations and such things. Miri left Saturday evenings to partake of the mysteries. When she returned she was always receptive—oh, she was receptive!

French approved of the Cult, not so much because he approved of the occult or the transcendental but because he disapproved of nothing Miri loved. He was not religious himself. He saw the world in its irreducible particularities, not in collective symbols. If he longed to worship, he could always reach out.

You are my Cosmic Lady, he thought. When I embrace you, I embrace the world. When you smile, it's sunny. When you frown, it's clouds. Your laughter tingles my spine like water. Your hands caress me like wind. Your hair shines and rolls like mutagrass. Your scent is the sage. Your touch is soft like Harvey pelt. Your body bucks like a Hinterland pony when we make love. Your eyes are stars, your teeth white cliffs in the distance.

He watched her and waited.

Deep in meditation, Miri felt Frenchy's enveloping presence. His mood penetrated her sensitized psyche—and yet she had induced it or amplified it by her visions. His adoration sparked with erotic tension. He'd soon grow restless, she knew. She smiled inwardly and let the visions of maternity slowly fade away until there was nothing before her eyes but the darkness behind her lids.

French decided he had waited long enough. He leapt from the bed and tiptoed behind her. Kneeling down, he began to massage her skin gently. She radiated heat. The Cult also taught them how to control the body's temperature. His hands pressed and kneaded her shoulders and back. He grew passionate.

He rubbed and massaged and moved closer and closer until he pressed up against her. He slipped his hands under her arms and cupped her breasts. His mouth muzzled her neck and chewed her right earlobe, the one free of adornment. His breath was hot and acrid with desire. Slowly he worked his hands down over her quivering belly into her lap.

Miri pretended not to feel him. She detached herself from her body and perched her soul into a corner of the room like a yellow bird. From there she watched him and watched herself as if she were looking at an ancient etching illustrating some book on love-yoga. But then came a point when the urgency of nerves summoned the bird back from its perch. She became one with her body, and with a low moan she twisted out of the lotus posture and drew him into her arms.

They rose after a moment and jumped on the bed, giggling. Her legs held him tightly while he worked. Her toes probed rhythmically toward the ceiling. He covered her face with little bites, growling. She lowed like a calf.

Oh, beautiful, trembling flesh. Oh, exquisite sex. Oh, wonderful gorge. Oh, meat of the goddess. . . .

The rush of breathing subsided at last. They rolled to the side, nuzzling, stroking in silence. Gravitron vibrations pulsed in the air. French placed tiny kisses on her forehead. Her breathing grew shallow. She fell asleep.

He wormed his left arm out from beneath her and set his new digital watch for six o'clock. He wouldn't get much sleep, but every little bit would help. The light was still on in the bathroom. Should he disentangle himself and put it out? No. He closed his eyes and immediately saw shadowy dream images. In their contemplation he passed over to the other side.

French started. Six o'clock? Yes. He felt a searing pain against his wrist. He fumbled and turned off the heat-alarm. Miri's legs still held his body in a scissor grip. They lay much as they'd fallen asleep. He had to get up, but his body resisted. It seemed as if he hadn't slept at all. Miri was warm. Perfume lay on her skin like a wraith over waters. Her breath moved against his naked arm.

He hovered between sleep and waking, thinking in rhythm with her breath.

Miri-mine, Miri-mine. Sleep reached for his awareness again, but

he shook it off. He had to get up, *had* to. His lips sought Miri's birthmark. Then he gingerly lifted her leg, rolled out of her earthy grip, and walked barefoot and naked to the showers. All shivering business now, he made a plan.

He was in the Ecofreak embassy and he had to get out undetected by flames. Barney had saved her life the night before. They had left Top Level surrounded by tribesmen. The flames hadn't dared to cause an incident, not with men who controlled Helium. But they had followed the group all the way to the doors of the embassy. Despite strong protests from Franco Dart, Barney had taken them in. But in deference to the Activist, Barney had put them up in an unused wing. Therefore the strong gravitron vibrations. Someone had failed to do the necessary maintenance around here.

French took a shower and pondered his situation. He expected that the flames were still out there, waiting. If he wanted to arrive at the first negotiating session on time—without the humiliation of doing so under Ecofreak protection—he had to get away now undetected. Which meant a disguise of some sort. And it would be best to leave Miri here, where she was safe, until he could fetch her with a group of men.

He shaved with a dirty old razor someone had left behind. Then he rummaged about in the cubicle's built-in closet trying on odd pieces of tribal clothing visitors had abandoned here. Judging by the pattern of beads, this cubohome hadn't been used in years.

In the midst of these activities, French discovered a section of wall

patched over with a plate of plastosteel screwed into place. He realized at once that the cubicle abutted a service chasm. His troubles were over. He could get out with no trouble at all.

Soon he was at work with a stiff saniblade from the shaver. The plate came off easily. Behind it gaped a ragged hole in the eroded wall, and gravitron sparks flew about. The suction pulled him but he resisted. Only his blond locks moved toward the opening.

French wrote a note for Miri. Then he put on the tribal tunic (a little too small) and a tribal hat (a little too big). He crawled out into the humming darkness, reached inside and lifted the plate. Chasm vacuum sucked the metal back into place. He was on his way.

THE HOSTAGE DEMAND

According to tradition, the first session of the Helium round was scheduled to begin at eight in the morning. Based on the same tradition, no one expected the Ecofreaks until a quarter to nine at the earliest. Ritualized discourtesy belonged to the negotiations as much as the toast upon arrival and the Top Level ball.

Promptly at eight-forty, French slapped his knees and rose from his chair in Proctor's office. He waited until the speaker had finished. Then, with a glance at the senior members of the negotiating team who had assembled for a last-minute session, He said: "I'd better go and do my chores."

Proctor nodded, and French left.

By hallway, elevator, and another hallway, French reached BTA's lobby. He nodded to the guards on his left and took up a stand before the door. Arms folded across his chest, he stared through glass at shallow stairs that tanned out and down to the sidewalk and the slow edge-lanes of the movebelt. Morning crowds tilled the belt. French lifted his eyes to the airspace above and surveyed the jump tube traffic coming and going. From time to time utility pumpers and levi-linos passed in the middle spurting blue flames from tail-jets.

French preferred idle waiting to the gloom of the meeting he had just escaped—where the Office of Intelligence in general and French in particular had been under sniveling attack.

Everyone in the meeting, and above all Proctor—who'd set the tone and whom everyone had avidly aped—had made much of Bono's behavior the night before. French's characterization of the man as a strict constructionist had been ridiculed and questioned. How could BTA enter the negotiations with such poor intelligence estimates? The performance of the Office of Intelligence had been most lackadaisical on this issue. And other such bosh!

They called themselves negotiators, French thought with scorn. At cocktail parties they told tall tales of fancy dancing and eyeball-to-eyeball confrontations. In practice they demanded hard guarantees well in advance that everything would go smoothly and that no one would get the slightest bit of heat.

French could understand Proctor's anxieties to some extent. Proctor worried about the Secret Agenda. He feared that Ecofreak had made an end run. The big corporate interests and Bernard Unsler—both wanted Accommodation. The corporations sought unimpeded trade with Hinterland without the paternal interventions of BTA. Unsler followed his oldest ambitions—to rule the entire American subcontinent, as his predecessors had done. These two interests conspired with Ecofreak to bring about Accommodation at last, lulling BTA by a show of Activism. This was Proctor's thesis.

It was all nonsense, of course. Nevertheless, the men had all sagely nodded. Then they'd begun to blabber about Regina Unsler. French had quietly suggested that Five-percenters often suffered from behavioral aberrations. A chorus had shouted him down, hands waving in deprecation.

An inauspicious beginning, French thought.

Yes, inauspicious.

When he had arrived early in the morning, still in his ill-fitting tribal clothes, he'd gone to report to Proctor and had found Dickens with his security chiefs in Proctor's office, all spread out on chairs and couches. They were planning Operation Hairy Scary.

The mere fact that they were in Proctor's office rather than in one of the conference rooms of the Office of Security had alerted French. The name of the operation had also given him pause.

Hairy Scary: a strangely juvenile code name for what seemed very serious business.

Dickens and his people were busy with several simulators and with intricate three-dimensional maps of Ricardo's towers. Spots on the maps were marked "points of attack." In the brief time French spent in the office, he learned the name of the operation and gathered that Sidney's flames would be the target. Trays of stale refreshments and mounds of narrow printout script pointed to an all-night session.

His misgivings grew when he saw Proctor in the midst of it all. Proctor's eyes were red from lack of sleep, and yet they gleamed with boyish excitement—disturbing in a man of Proctor's usually stony reserve. French was reminded of the fact that he knew almost nothing about Proctor's background; nobody did. He came out of the past, ready made. French soon gathered that Proctor didn't want him there. The Negotiator scowled at French's tribal costume. He sent French off to gather the negotiating team for a meeting at a later time. He waved a hand: "Get into some decent clothing." Then he turned back eagerly to Operation Hairy Scary.

Playing little games. . .

French rocked back and forth on his heels. He liked neither the exuberance surrounding Hairy Scary—ostensibly an action triggered by Clafto Meyer's murderous pursuit last night—nor the pessimistic approach to the negotiations.

Men should sleep at night, he told himself. When they stayed up all night, they lost perspective.

A glance at his watch told him it was a quarter to the hour. The dele-

gation should be here by now. He pulled down on the stiff new robe he'd bought from the commissary in the BTA complex. Tillinghast, the manager, had been obliged to come in early to sell French a robe, which the merchant had really appreciated—but French hadn't dared to go home for proper clothes, and neither could he receive the delegation in a mockery of their own dress.

Punctual to the minute, Ecofreak arrived. Their jump tubes fell down from the traffic and settled on the sidewalk. Little doors opened. The tribesmen gathered into a clump and then, in unison, they came up the stairs toward the glass door. French put on a smile while his eyes searched the ascending delegates.

Bono was not among them. Dart walked at the head of the group. French experienced a twinge of worry. His mind flashed up a memory of jump tubes in a shadowy garage, the Unsler flower. . . . He pushed the glass door open, face still frozen in a smile.

After a series of perfunctory handshakes, French led the delegation toward the negotiating hall—a cavernous expanse built in the 'burgher' style of another age. It was somewhat overwhelming, with its vast glitter, sparkle, and shine from the chandeliers and huge mosaics made of precious stones. In the center a large oval table rested on sinuous legs. Chairs carved from egg-shaped pieces of obdoplast stood around the table. Smiling uncertainly, the BTA complement, minus Proctor, already waited.

Gnarled hand on robe sleeve, Dart pulled French aside. His eyes

looked at French and evaded at the same time.

"The Chief of Mission has been detained," Dart said stiffly. "He is receiving additional instructions from home. I wonder if we could delay the start of the meeting briefly?"

"Of course," French said. He pointed to his right where coffee, whiskey, and tiny pastries shaped like human thumbs were laid out over immaculately white cloths on tables between slender columns. Servants stood waiting. "We can refresh ourselves while we wait. The Chief Negotiator has also been detained."

French moved toward the coffee, eyes on Dart.

"I understand that you have extensive experience in structures," French said. He bent down and worked the silver handle of the coffee urn. Coffee steamed darkly into his cup. "You were first secretary here, I understand."

"Yes," Dart answered absently. He peered toward the entrance over his shoulder. At that point Bono appeared at the door. He blinked in the brilliance of the room.

"Excuse me," Dart said, tight lipped. "I see that he has just caught up with us."

French nodded. He took a sip of coffee, following Dart with his eyes.

Dart stopped in front of Bono, a small little figure before the taller tribesman whose forked beard and hollow eyes gave a forbidding image at the moment. Even from a distance, French saw that Bono hadn't slept much, if at all. His features showed strain. He didn't have

the languid air of a man who'd spent his night striving.

Dart's hands gestured fiercely as he spoke. Bono looked past Dart with an indifferent expression in his eyes, observing the tribesmen who placed ornately worked leather folders before each seat on the Eco-freak side of the table, pre-marked with name plates.

Then Bono glanced at Dart and said a single word. A harsh gesture of dismissal followed. Bono stepped past Dart and walked toward the table.

French caught the eye of a Union negotiator, held an index finger into the air, and nodded. The man stepped to a tel-set and punched numbers. The call would summon Proctor.

Following Bono's lead, the tribesmen settled around the table. Ecofreak would obviously shun the preliminary talk and drinking that, based on experience with this tribe, was a prerequisite for sensible negotiations. If the tribesmen wouldn't come to the refreshments, the refreshments would have to go to the tribesmen.

French beckoned to a servant. "Please serve these things at the table," he said. Then he went to his own spot, next to Proctor's in the center, opposite from Franco Dart.

Bono reached for the carafe of whiskey and poured himself a glassfull. The liquor tasted sharp, warm. He hoped that the intensity of his excitement was not evident to the others.

He experienced a kind of breathless intoxication, a kind of careless abandon a man felt only in the hunt, leaping, say, from boulder to

boulder in the mountains after a wounded goat, without time for reflection, at the mercy of reflex.

He poured himself another glass and sensed Dart's disapproving stir.

Down the hatch! God—some breakfast.

I'm free, I'm loose, Bono thought. He kept his face rigid and his lips in a kind of pout, but he was amused, he wanted to laugh.

I'm awake, he told himself.

Tack was far away and plotted some kind of nonsensical war, like a child with lead soldiers, yes. Bono had bought all that like an innocent, but now he was awakened, finally. Here he was, on the scene, plotting love, by Jesus. *Ain't it simply wild how one could just chuck all those years of habit and go right against the grain of the past and never give a shit?*

Men rose around him. He looked up and saw that Proctor had entered. He rose also, keeping himself in control despite internal babbings.

Proctor approached the table, blue robes swishing. He carried folders under his arms. His chin was out. He took up a position across from Bono, bowed. Bono returned the bow.

Proctor waited until the assembly had settled down. Then he opened a folder and began to read the welcoming remarks in a hurried monotone.

Bono sat entranced by an internal vision of Jonny Tack. The vision amused him in a perverse sort of way. He saw Tack kicking furniture, saw him hit out with a balled fist. Perfidy, he'd bellow. Treason! *And what if Union yields the parts*

anyway? Wouldn't that be doubly amusing?

To act, to leap out over a chasm certain that angels stood beneath to catch you on their wings—it had a mind-blowing exhilaration.

Bono followed the vision. If Union failed to yield up the parts, he would be a fugitive hunted by Tack's agents all over Hinterland. He wouldn't be safe anywhere except in the radiation belts or high up in the icy wastes of Canada.

No matter. He would wander forever. . .perhaps with Her. One act of defiance after all these years would be worth it all.

Proctor's voice rose slightly, revealing that he neared the end. Bono began to pay attention.

"And so, gentlemen," Proctor wound up, as we look forward again to another five years of constructive cooperation with the great and noble tribe of Ecofreak—whose purposes, ideals, and aspirations all of us in Union deeply share—I welcome you again around this table where, though disagreements might surface and conflicts may erupt, we have always, in the end, signed an accord of mutual benefit."

Hands clapped politely.

Bono rose, a little giddy.

"Gentlemen of Union, Chief Negotiator, men of Ecofreak. . ."

To his left Dart gestured with some vehemence. He looked down and saw a folder in Dart's hands extended toward him. It was the official opening statement. Its every word had been carefully weighed; every intonation and nuance had been honed in day-long conferences. Bono waved the folder away.

"I'm a simple man," he said, real-

ly believing that at the moment, looking at Proctor, French, and sweeping the line of yellow-robed BTA officials. They all saw him gesture the folder away, and stared at him now with new interest.

"I'm a simple man from the steppes of Texahoma. I've never been inside a structure before. I was prepared, like all of my countrymen, to bring to you suspicion and traditional hatred. And is it any wonder? We are worlds apart. You live on the coasts in these gigantic machines under the drumbeat of gravitron. . .while we farm the land and herd our cattle through endless oceans of rolling mutagrass. . ."

A strong emotion helped him speak. Words rolled off his tongue unasked. He saw an exchange of glances between French and Proctor. He heard a sound from his left where Dart seemed to be gagging on something.

"For too long a time, too many years, your missiles have threatened our settlements. But we've had your life in our hands. Ever since the Helium War of 1011, when we forced your corporations to give up control by guerilla warfare, we've had our hand on the Helium valve. And so we stare at each other across the Desolation that circles you and keeps us apart."

The tribesmen to either side stirred in discomfort.

"There is much beauty here," Bono continued with a sweep of his hand, indicating the blaze of lights in the room. But he saw in mind's eye the beauty that was Regina, her face inclined over his, as they had talked on a low divan all through the night. "There is beauty

here and art, and great skill," he continued. "Structure-man has made the High Culture, and may it live forever. May we all, our scientists and yours, together seek an alternative to gravitron, an alternative that doesn't kill as it lifts."

Dart coughed. The old man seemed to die of coughing—a harsh, distracting sound.

Bono went on. The words came of their own accord. He was high on fatigue. He realized vaguely that he spoke to Regina, to himself, not to this assembly.

"But Hinterland mustn't be despised. We have our life as you have yours. The land belongs to us. Our eyes look out over the steppes. We walk the high sierras, we sail the lakes and rivers. We give you what you need to live and in exchange you give us the products we don't want to make for ourselves. Ours is a life of mutual dependence. Why then do we threaten each other? We have Helium and you have the technology we need—to communicate, to increase our comforts. Is there sense in constant tension?"

He looked around the assembly, lifting his eyes from the empty whiskey glass to which he had been addressing himself.

"There is not," he affirmed. "We have everything to gain, nothing to lose from maximum cooperation. Let us strive together. . . ." The word made him halt for a split second. ". . . for the best possible deal we can find, in a spirit of love and mutual respect."

He sat down amidst uncertain applause.

Dart's face was immediately at

his ear. The sour old-man's breath hissed.

"Have you gone mad? Why didn't you use the prepared text?"

A BTA man rose, cleared his throat, and began to read the 1051 Helium Contract.

Bono turned to Dart. "I didn't say anything that wasn't in the text, more or less. Just different words. My own." He saw that Dart was frightened.

"Mycal, there's a world of difference. For God's sake, don't go on like this. You're endangering our lives. Yours and mine. Jonny will be furious."

Bono shrugged. "He doesn't need to know. If we get him the silco-parts, he'll be delighted. He doesn't have to know how we conduct the negotiations."

Dart was breathless. It seemed to him that Bono's eyes still had a glimmer of madness, a residue of the night before. He reached for the prepared text bound in a folder, opened it, and flipped to the last page. He pointed to Jonny's initials in the approval box in the corner.

"He approved it," Dart whispered. Although Dart's voice was low, Bono could sense the heavy charge of emotion in the words. "He put his initials on this. That's tantamount to an order." Dart hit the expensive fiber paper with a wrinkled knuckle.

"We need flexibility to negotiate," Bono returned curtly. "I'm no tape recorder, parroting his words."

The BTA official droned away, reading the contract.

"The cable," Dart insisted in a whisper, meaning the random-

coding radio communications system that linked the embassy with the Texahoma camp but which, as a result of tradition, still went by the term 'cable.' "If you want a change in direction, you can cable home. But without his approval, you can't deviate from your instructions. Jonny will string us up. I can't let you do it, Mycal. Withdraw your statement now and read this."

Bono fixed Dart with a stare. "You're merely an advisor. You can't tell me how to negotiate."

Dart remembered that he had the courage to oppose. "Do you know why I'm on this delegation?" he asked in an angry whisper, recalling Jonny's words again—"Go with him, keep your eyes on him." "I'm here," he went on, "because I opposed your nomination. And Jonny sent me along to keep an eye on you. And it's a good thing he did. You gave them an altogether false impression with your off-the-cuff ramblings."

Dart felt redeemed by Bono's blunder. *I might have blabbed a little to Barney*, he thought, *but I didn't disobey any direct orders from Jonny Tack*. He wondered where Bono had spent his night and suspected that he knew only too well. Of such liaisons came bad policy. Bono's incoherent babble, the mad look in his eyes, his rumpled clothes convinced Dart that more trouble lay ahead. Union bureaucrats had a phrase that described what he now felt about the chief of mission. Bono had blood on him. Any moment now the hounds could close in. Dart had known it, had known it from the start, had told Tack as much in no

uncertain terms. Dart didn't mince words when he opposed. And if the hounds already bayed in the distance, Dart wished to be far away when they arrived.

"You've heard the old accord, Chief Bono," Proctor said. "What is your initial position for the next round?"

French eyed Bono with interest. The tribesman's opening remarks, clearly invented on the spot, had had a very different sound than Bono's initial observations in the hall of reception. Now the Ecofreak chief, who had lowered his eyes toward a leather folder, looked up at Proctor. His face revealed nothing.

"Ecofreak has no *initial* position," Bono stressed. "Ecofreak has *one* position. We intend to abide by it. I believe it's fair and reasonable and will benefit both sides. With your permission, I'll read it."

Proctor nodded.

They'd have certainty, at last, French thought. If they had been deceived in their estimates, now they'd know the truth—or at least as much of the truth as Bono would reveal in his opening sally. French found it significant that Barney had been excluded from the delegation. He hoped with all his heart that Bono's statement had been mere talk, rhetoric, not the exposition of an Accommodationist view.

Men opened folders. French looked down at his own sheet. He held a stylus at the ready.

Bono began to read, very slowly.

French made a checkmark next to item one. The plastosteel demand, as Barney had told him—and as

French had noted on the fiber napkin with the imprint of The Mutant in the corner—was eight hundred thousand tons. No surprise there. Bono read sixteen conditions that dealt with delivery. BTA men recorded the points. So did six cameras through holes in the ceiling.

Next came a list of products. French grew more alert. The item slipped by almost without notice. Five thousand clock movements, three helicopters, *fifty thousand switches*, eight hundred visisets, ninety thousand lectroshavers of brand BRASOMAT, five hundred thousand sheets of scriptoplast. . . .

The list went on and on.

The last item on the BTA prediction was the hostage demand. It said: "Hostage: Sidney Unsler, Underunifier (expected to yield on this point if 33% of plastosteel demand is met)."

French felt his muscles tense as Bono's voice rose. The chief was almost finished. French glanced at Proctor, but the man's face was impassive, the thick neck solid; the huge chin stuck out as if daring the world to hit it.

"And finally," he heard Bono say, "the hostage demand."

In that moment of intense waiting, French recalled wryly the origin of hostage demands—they went back to ancient days, the troubled era of the LNW's, when the taking of hostages for political purposes had been a random and unpredictable phenomenon until, in this era, it had become institutionalized. It was symbolic, nothing more. Yet now, how much emotion stirred in French as he waited!

Bono had laid aside his folder. His eyes were looking straight at Proctor.

"This round we shall require only a single hostage," Bono said. "However, by reason of the unremitting threat that Union missiles represent, we shall demand unusual proof of your good intentions."

Bono paused. He reached for the carafe of whiskey and poured himself a tiny glass of the clear liquid. French watched him tilt it back. Dart appeared upset by this small interruption in the proceedings. His deep-set eyes stared at Bono in an expression of tight-lipped disapproval.

Bono held the glass in his hand. "This round," he said, and French detected a slight trembling in the voice, "we demand that you make available as hostage Regina Unsler, the Unifier's daughter."

Silence.

Bono lifted his little glass, tilted it back. He shook it, as if to extract a tiny drop of whiskey at the bottom.

"And furthermore," a stunned French heard him say, "it is our demand that you make this known to the public of Union immediately by a special visicast."

Silence.

French had predicted most of the negotiating points—save one. That one deviation spoiled it all. He remembered an image he particularly liked. Each Helium round was a knife-fight in the dark on wet and muddy ground. At the moment, in a kind of slow motion, Union's feet were slipping on the mud. Slowly they came off the ground. Slowly Union fell toward the ground while

the opponent, equally slowly, came in with a flash of light caught in the metal of the blade.

French controlled his astonishment and looked about.

Bono filled his glass with whiskey. Two tribesmen at the far end of the table whispered, heads close. Most of the rest stared gloomily at folders, hands.

Then Dart suddenly rose from his chair. The short, wrinkled man turned from the table and on wobbly, curved legs he hurried toward the door.

Proctor appeared to be frozen. French glanced at him anxiously. Proctor stared at the list before him, chin down, as if it had been hit with a sledge hammer.

"Your demands, Chief Bono," Proctor said, looking up at last, are unprecedented, to say the least. I propose that we reconvene here tomorrow morning, at which time we shall give you our initial reaction."

Proctor moved back his chair.

French leaned over, whispered: "The specs. We've got to have a look at the drawings. Ask for documentation, Res."

Proctor shrugged. With a sinking heart French saw the man's intense disappointment, although Proctor hid it well.

"Details," Proctor whispered tiredly. "Details. We've been stabbed in the back."

"Please," French pleaded. "We must have the drawings."

From across the table, they both heard Bono speak. "Mr. Proctor, I can agree to your proposal that we adjourn. On one condition. The hostage demand must appear on Media today."

Proctor had himself under excellent control. French knew the way Proctor must feel. Everything about the session had Accommodation writ large about it—front, back, sides, top, and bottom. French skirted a suicidal thought—his estimates *could* have been wrong. But now, it merely *seemed* so. Seemed but wasn't! He simply couldn't imagine that he and his staff should have blundered so badly. The evidence before French now must have another explanation.

Proctor spoke. "Your demand is most unreasonable. At this point, traditionally, we analyze your demands. For that we need both time and complete documentation. We have no problems, in principle, with your hostage demand. But we expect to negotiate a package in secrecy before we go to Media."

Across the table Bono tried to control the shaking of his hands. His hands were sweaty. They left moist marks on the folder before him. Until now he had always dismissed Dart as merely tiresome, but now the little rat had shown unusual initiative—walking out of the negotiations! What had possessed him? Bono had a vision of Dart dictating a communique for transmission to Tack. But that was unthinkable. Dart was a coward at heart. Even so, Bono had to get them to announce the hostage demand. At once. He had no time to lose. She'd see him tonight. She'd see him the moment Media made its report.

"We have the documentary package for you," Bono said. He gestured to Sonder. The burly tribesman passed a large roll of drawings and a thick book of specs across the

table to his technical counterpart from BTA, Clemmens, a balding, older man. "As for the announcement, it is the minimum requirement for another meeting."

Bono rose from his chair and gestured to the tribal delegation. All rose and bowed.

ULTIMATUM

She came up out of groggy sleep, angrily resisting. Something pulled incessantly on her arm.

Her dream had been a mass of confusion, anxiety, and fear. She had tumbled in the air through clouds. Sidney had chased her in a tube, his finger pointing. Someone had buried her beneath a mountain. No, it had been a grave. Dead? Dying? And Mycal had glowered above her with a spade in his hand. Earth had tumbled on her. . . or had it been grass?

She tried to turn away from the insistent, nagging pull. But the pulling persisted. She heard Selma's voice? "Miss Ginny, mistress."

Regina opened her eyes and saw Selma's face. Beyond the girl was the intricate pink silk construction of the bed's roof and sides.

"What is it? What time is it?" Regina mumbled. She felt as if she hadn't slept at all. It seemed only moments ago that she had lifted Mycal's head gently from her lap. She'd been bone weary. She had left him asleep on the divan where they had talked endlessly through the night. She had left him and had gone to curl up on her own bed. And now this person. . .

"He wants to speak to you on the

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tel," this person said with a hunted, harried look in the eyes. "He insists that I wake you. He's been calling for over an hour, every five minutes."

Regina shook her head and blinked. There was a pain behind her temples.

"Who?" she asked. "Who insists?"

"It's *him*," Selma said. Her facial expression and intonation said the rest.

"Tell him to drop dead," Regina said and turned her head back into the pillows.

Once more she felt the tug on her arm. Selma's voice had an edge of panic.

"Miss Ginny, please, he threatens. . ."

Regina sat up. Eyes flashing, she cried: "All right, all right. I'll talk to him."

She leaped out of the bed and strode off into the sitting room outside her sleeping chamber. Fury boiled in her. She threw herself into a chair and activated the small-screened tel.

"What do you want," she said, staring at the screen. The image of her brother didn't appear. All too often he turned down the visio. He liked to come into her room as a disembodied voice. She reached forward and turned down the visio on her side too, just as his voice came over the box.

"How was it?"

"How was what?"

"Striving with that bumpkin."

"You're disgusting," she said; her voice conveyed revulsion. She wanted to cut him off, to take the tel and fling it against the wall. But

she didn't dare.

"Ho, ho, ho! Look who's calling who names. I was told all about you, femmy. As for disgusting. . . you *threw* yourself at him. Well, let me tell you something, Ginny. I won't have it, understand?"

She heard the sharpness of his voice and could well imagine, without any help from the screen, the tight, angry look on his long face, the cruel turn of his lips.

She should have known that her all-night dancing would be reported to Sidney. She had put him—and Clafto—out of her mind. But Clafto had tried to dance with her several times during the ball. She had refused him each and every time. At the end he had glowered with dark fury. Now she reaped the consequences.

She didn't answer. She wondered what he might say next. She was afraid, but for once she felt defiant as well. By tonight Media would broadcast the news. Her father would hear of that and know that Accommodation was possible again, that Ecofreak sought her. They'd call her into his presence. She would be safe again and forever more, safely tucked away in Hinterland. But for the moment she was fearful and wary. She didn't dare give Sidney any hints.

"Well?" he said. "You heard me."

"I heard you."

"And. . . ?"

"And what?"

"And what're you going to do?"

"What do you want me to do?"

"You know what it is. I don't have to tell you."

She knew. He considered her a plaything for his favorites. Clafto was Sidney's latest favorite. He stood next in line as Underunifier should Daddy suddenly die. Until Sidney changed his mind, of course. Then it would be someone else. And after that it would be someone else again. And in Sidney's mind, whoever it was must be her lover, her husband if Daddy ever died.

She imagined the future as a succession of husbands, one after the other. Each one would be executed when he fell from favor. Today Sidney couldn't kill them. But in the future he would, he would. For a moment she felt desperate. Then she remembered. This time she would escape. Serenita had known it, and somewhere deeply she also knew, despite that horrid dream which even now lay beneath her consciousness like some pressure.

"I'm still thinking about it."

"Damn you, bitch," he hissed over the tel. "Weeks ago—*weeks* ago I told you to take Clafto! Thought it had happened. And this morning he told me how it really is. You deceived me, Ginny. You shouldn't do that, you know. And last night you made a whore of yourself—with a tribesman! *Again!*"

"I did no such thing," she answered quietly. She wished she *had*.

"He spent the night."

"We talked."

"I bet," he cried with a little laugh. "I bet you did! Well, my sweet, there's an end to that, as of now. Clafto will come to you tonight, and you'd better receive him.

If you don't, I'll personally open the doors for him. *And* for his friends. Tell that to your staff, chippie."

Regina shivered. She wouldn't be here. She'd go and hide somewhere. He wouldn't *dare*!

"I'll go to Daddy," she cried. "I can't stand it any more!"

"Ohhh? You will, will you? Good luck, fem-stuff, good luck to you. And if you get through to him, tell him that, that. . ."

He can't think of a threat terrible enough, she thought.

"Let me tell you this, Ginny. You go to Daddy, and I'll make sure that you regret it to the end of your days."

Sister Serenita, she thought. I'll go to St. Theresas of Carmen.

"And don't think you can escape me, Ginny. My men are stationed at all your doors. You can't get away. Don't try."

Hysteria put clammy claws around her throat. She buried her face in her hands. Her mind raced, seeking alternative routes of escape. She couldn't find any.

Maybe I'll have to yield to Clafto. Sidney will have his way with me one final time. Then I'll get away forever.

It wasn't the physical thing she hated; that she rather liked—it was the humiliation of it all. Another man's will imposed on her. And now, with that strangely sweet experience behind her, her memories filled with the long talk she'd had with the archangel, trying to assure him that she truly loved him—although she didn't; and this morning she knew that—it seemed to her terrible and repulsive to yield to

Clafto merely because her brother commanded it. Mycal had given her a feeling of what it might be like again. . . true love. She could yield to him, although she didn't love him and meant to use him crassly—like Sidney tried to use her.

But I'm in desperate straits, she thought. He'll forgive me.

"Well?" the voice over the tel probed. "What do you say?"

"Nothing," she answered. "I have nothing more to say to you, Sidney."

She reached forward and cut him off.

Immediately, she punched out the numbers of her father's office; she kept the visio off. In her fluffy nightgown, her hair in disarray, her face puffy from sleep and kisses, she didn't want to be seen.

"Top Level," the switchboard operator sang, and a woman's face appeared in the screen.

Regina identified herself and asked to be connected with her father.

"We'll switch you," the woman said. Her voice was cool. The screen went blank.

Regina waited. The seconds multiplied into a minute, then another. *Too late, she thought. He must have gotten through before I did. His people are everywhere.* Her spirits sank. She saw in her mind the corridors, the large offices filled with her father's many aides. A wall about him. He was behind them, remote and inaccessible even to his own flesh and blood.

After a minute, another face appeared. She recognized Blottingham, Daddy's chief of staff—and

one of Sidney's friends as well.

He said: "Miss Unsler? Am I speaking to Miss Unsler?" He ran a hand over the short hair on top of his head, cut into the shape of an egg. "Your visio is off."

"This is Regina."

"The Unifier will return your call as soon as he is out of conference." His tone was crisp but cool, and Regina knew that she had failed.

V THE RANDOM OSCILLATION EFFECT

FRENCH CAME OUT of Proctor's office and rushed past an astonished Mrs. Sedlig toward the elevators. His energetic strides translated anger into kinetic energy.

Mrs. Sedlig peered after him, her head slightly bent, above thick rimless lenses that she wore on her nose for reading.

She was a small, faded person, with grey hair held in a bun at the back, and red-rimmed, almost lashless eyes. Her fussy fingers nervously checking packages for signature were as much a part of BTA's atmosphere as Proctor himself. She had been his inseparable companion since the days of Defense, and though she didn't look it, she was a survivor type, having come through the clerical purges when secretary machines had invaded the bureaucracy and only a very few, the most loyal, the 'indispensables,' had remained in such positions. Like Proctor she lived alone and had never married or entered a contract. She drew her total psychic sustenance from her work, and this room—with its scatter of comforta-

ble couches and little coffee tables, the holographs of Helium refineries on the wall, the tribal flags in stands, the huge potted artificial plants she tended as if they were real—was her real domain. From her teak desk next to Proctor's door she guarded his privacy, filtered the messages, and watched the rise and fall of issues and of men.

Now, as she watched French disappear down the hall, striding angrily, his purple robe swinging, she had a clear intuition that Rivera French was on the way down. She inferred this from a number of little signals, not just from the shouting match in Proctor's office which she had overheard as a dampened sequence of sound through the wall. She gathered it also from the frequency with which Gregory Korn, the DA for Compliance, was called to Proctor's office—he being French's chief rival—and Proctor's own mutterings when she took him coffee or emptied his in-box. She stored the information away in her meticulously ordered memory, thinking that French was altogether a vulgar man, much too impulsive, his Branco heritage worn outside for all to see. Then she returned her attention to a thick decision package.

Down the hall French had stopped in front of the elevators and waited, fuming. His breath still steamed with hormones generated by the bitter exchange.

The post-mortem of the negotiating session had left a foul taste in his mouth. Proctor had gathered his chief aides for an emergency meeting. His strategy had soon emerged—a replay of the laser issue of five years ago. Proctor had pro-

posed that the silco-parts be offered to Ecofreak in exchange for a withdrawal of the hostage demand—and, of course, delivery of a Helium Interdiction. "We have nothing to lose by trying," he had said, "and, frankly, we have nothing left to try."

French punched the elevator button again with unnecessary force.

He'd known it, had felt it in his guts, could have predicted this would happen, had guessed it would happen ever since that evening at the jump ball game just before that fatal encounter with Meyer's sparks.

In the office he had argued with something approaching fury that the Secret Agenda had to be achieved some other way. The silco-components couldn't be delivered. A brief glimpse at the Ecofreak drawings before the meeting had convinced him that the parts had some sort of military significance. But Proctor had shrugged that off. He could be ruthlessly singleminded when it came to his own objectives. At last French had walked out in anger, leaving the field to more compliant deputy assistants. He, for one, wouldn't risk Union's millions—not even to remove the Unslers from rule.

But you shouldn't have said it, he thought. You should have kept your yap shut.

Opposing the Chief Negotiator did nothing for a man's career—least of all if Proctor turned out to be right in the end and became Unifier. But there was a point where ambition had to be subordinated to responsibility.

The elevator doors slid aside. French was about to enter when he

saw Darby Dickens come out. He stopped the DA for security.

"Darby," he said, "in all this turmoil I haven't had a chance to talk to you. Did Franklin tell you about my situation?"

Dickens nodded gravely. He was a tall, black Structure Panther whose exemplary neatness never failed to surprise French. After a night's work, his jump suit was completely free of wrinkles. His sleeves were carefully rolled back to his elbows. His olive arms were thick and solid. A golden watch gleamed on his wrist.

"We'll rescue Miri, never fear," Dickens said. "That'll be the first sweep tonight. But it'll be late. We must wait until the crowds thin out."

"I want to go along," French said.

Dickens nodded. "Have my boys issue you a chemgun and mask and meet us in the stadium at half past ten or so. Gomer will be in charge of that sector. Look him up."

"Thanks," French said. "By the way, Darby, what is this all about, Operation Hairy Scary?"

A grin lit up Dickens' face. "You don't know?"

French shook his head. "I haven't had a chance to ask Proctor."

"Well, let it be a surprise, then. I'm sorry, Riv, I don't have time to explain. I'm on my way to Res now. Hairy Scary is turning out to be one of his pets—if you know what I mean."

"Darby—"

"Later." Dickens moved off, waving.

French punched the elevator button again. Darby enjoyed all this.

Nothing like an operation to break the routine of guarding doors and grav-drums. But if Proctor planned something foolish, would Dickens restrain him?

It came out of the man rarely enough, thank God, French reflected, thinking about Proctor's penchant for practical jokes. But when it came out, it was usually something approaching the sordid. It seemed as if practical joking and perpetual bachelorhood went hand in hand. French recalled 'Operation Sulphy Ovum' when a hundred crates of rotten eggs had been delivered to Top Level three years ago. Proctor had been most indignant, had promised a full investigation when Blottingham had come calling in the wake of the stink. Yet everyone suspected that Proctor himself had planned every detail of that.

The elevator came and French got in. For a second he surveyed mentally the many hours between now and half past ten. Miri would be in that small room, waiting. A powerful pulse of longing shook him, and he realized he didn't give a damn about silco-parts, Ecofreak, Proctor, or anything else—not until Miri was safe.

As he strode off toward his office two floors down, he made a mental note to call Dachshund Jones, Number One in the Kayring Gang. He would hand Miri over to the gang for safekeeping. Nothing less would give him mental rest.

People filled his office. The lights had been turned off. Schematics of an ear-shaped device intricately overlaid by a strange pattern were projected against a wall. A

computer console stood on the right. A three-dimensional articulation of the component turned slowly in the upper half of the screen while an odd, random, zig-zag curve flashed like lightning on the bottom.

Clemmens had assembled the technical staff for an examination of the sil-components. Two sil-chemists from Norleans had stayed to help. But why in this office? Then French realized the reason. Operation Hairy-Scary had pre-empted all the conference rooms.

French stepped in wondering if Professor Fulbright of the Central Technical Institute had arrived.

French said: "How are we coming? Anything new?"

Dark, shadowed faces turned toward him. Clemmens stood next to the computer screen with a pointer in his hand. He turned to French.

"We've stumbled onto something new, Riv. Should've thought of it long ago. . . but we're industrial technologists. This is a rather advanced research notion. Lindy here suggested that Ecofreak might be using the ROE. That's a long shot, of course, but we haven't got anything to lose. We're boxed in. . . Professr Fulbright is here."

French took the cue. He searched the blue-white faces until his eyes found a small man with angry eyes and a sparse goatee. He walked over to Fulbright and shook his hand.

"How do you do, professor; glad you could come."

He turned back to Clemmens at the screen.

The Random Oscillation Effect. Curious. Over the years French had read articles about the ROE in the

scientific press. Great promise, little performance.

"Well, Clemmens, what have you decided. What use could they make of the effect?"

Clemmens shrugged. Computer lights were reflected in his bald skull. "We haven't the faintest, Riv. It's a useless phenomenon—useless precisely because it's random. A laboratory curiosity. But suppose this little gadget *controls* the oscillations. . . ."

Clemmens let that one sink in.

French thought for a second. "Atomics?" he said. *God*, he thought, *if it's really so, Proctor has to be stopped!*

Heads nodded around the table.

Clemmens said: "If this little switch can modulate the oscillations, Ecofreak could neutralize an atomic attack. But how?" Clemmens raised his hands. "We can't figure it out. This isn't the whole assembly—only the part they can't make themselves. And from this little bone—" Clemmens tapped the console screen with his pointer and tiny dots of white appeared on the blue surface where he tapped. "—we can't reconstruct the whole beast. . . . At least not in an afternoon."

French looked down at the professor.

"What's your assessment, Dr. Fulbright?"

The physicist snorted. He had a high, crackly voice. "It won't work," he pronounced. "I've told your staff as much, Mr. French, but they persist. I've spent thirty years of my life trying to control the ROE and haven't done it yet. I find it a little difficult to imagine that simple

tribal engineers should have solved the puzzle."

The man's offended ego sent out angry vibrations. French didn't say what he had on his mind. Those 'simple tribal engineers' had proven their mettle in field after field. The Crestmore bible thundered against Technology, but Hinterland was filled with heretics, as it were. He recalled a fancy laboratory he had once nearly penetrated on the outskirts of Kaysee in Mogan territory—clumps of buildings in a rolling valley beside the remnants of an ancient highway. French had seen white-clad technicians moving about beyond a fence like monastics. Roofs had bristled with antennae. He had found odd chemicals in the waste cans of that lab. That had been one of those missions to follow up on the laser demand, a job he hadn't left to subordinates. . . .

Clemmens cleared his throat. French sensed a tension in the room.

"You will admit, won't you, Professor Fulbright, that you've never tried to weld copper and SP."

"I'll admit no such thing!" Fulbright bristled. "I have avoided meaningless experiments, if that's what you mean. But my students and I have simulated *all* possible combinations of sil and common materials. The mathematical foundations have been laid. They yield no results."

French looked back at Clemmens.

"Suppose for a moment, professor, that they use a new kind of mathematics."

Fulbright snorted. "Preposterous! What new mathematics? There is only one kind. Models of the Uni-

verse, Mr. Clemmens. . . perhaps, perhaps. But surely you don't mean a new math!"

Scientists were childish in proportion to their fame. French knew that Fulbright could be of help—but it would take time.

"I meant a model, professor. Perhaps a five-dimensional approach, that sort of thing. I'm an engineer myself and don't pretend. . . ."

French had to go. In that bitter meeting with Proctor, he had had an intuition. Recalling the negotiating session, it had seemed to him that Bono had acted against tribal instructions. Perhaps the man had fallen for the girl and meant to extract her by using the negotiations. Proctor had rejected that thesis out of hand, saying it was incompatible with the parallel demand for Media announcement of the hostage request. Bono could have the girl for the asking. She was a notorious whore, warming the bed of just about anybody who wanted her badly enough. Nonsense, nonsense. Nevertheless, French was sure. He wanted another look at the tapes of the ball and of the morning session.

He waited for Fulbright to finish while he eyed Clemmens. The two men clearly clashed. French decided he had done the right thing in calling in Fulbright. Answers would surely come from these collisions.

Fulbright was saying: "I welcome your inspection of our models, Mr. Clemmens. We have a goodly set of models. Five dimensional models, ten dimensional models, Mr. Clemmens. Thirty years is a long time, you know, and I pride myself on a modest reputa-

tion in the field of Vibration."

Personal gravitron—the Fulbright invention everyone knew about—had made the professor famous. He had discovered a method of sensitizing fibers in gravitron chambers so that they gave temporary lift to individuals. Police used it and so did sealing crews. It had made jumpball possible—alas.

French said: "I'll be back shortly, gentlemen; in the meantime, please continue. Professor, thanks for your help. We must solve this mystery somehow and do it quickly."

He turned and went off toward the Psychometry Department of the Office of Research.

THE COURAGE TO OPPOSE

Dart scurried down the narrow stairs with occasional, furtive glances over his shoulder. He appeared unaware of the slightly comical, almost theatrical image he projected as he tiptoed down the carpeted stairs, the very picture of guilty stealth. He tried to make himself small and inconspicuous, although there was no one about.

A nervous litany ran in his head, *I hope, I hope, I hope*, he repeated.

Dart hoped that no one would interrupt his clandestine communications with Jonny Tack. He hoped that the technician on duty in the comroom wouldn't raise any annoying little questions about Dart's authority. He hoped, above all, that Tack would receive the message well.

In a situation of this kind, where a man had to walk a tightrope be-

tween two chasms, one couldn't be sure of the outcome. It took a man of courage to do what he was about to do; no, more than that—a man of subtlety.

He held several sheets of scriptoplast in his hand. He had labored long and hard on the precise wording of the message. Time and again he had pushed sheets through the renewal slot above the desk in his room to erase unsuitable variations. Now he had a version he could live with.

He hoped that the words would convey the picture just . . . so. Not too hard on Bono—just in case. Not too tolerant either—in the event. . . .

At the bottom of the stairs Dart stopped to orient himself. He had been down here many times in the old days, but things had changed. The comroom should be to the left. Yes, there it was. He saw the sign painted on a glass door. He moved forward.

I talked to him, he reassured himself. I asked him outright. This shouldn't come as a surprise to him. I said to him: "Mycal," I said, "are you acting on your own authority on this? Do you have a secret mandate from Jonny Tack?" I was very direct with the man. I came to the point. I didn't mince words.

Bono's eyes had shied under Dart's penetrating gaze. Bono had scratched his ear, had glowered. "My arrangements with Jonny are none of your concern, Franco," he'd said. "When I want your advice, I'll ask for it."

The memory made Dart feel the fury he had felt then.

There had been more along those lines. Bono hadn't been direct. He hadn't denied, hadn't affirmed.

Well, my boy, you can't blame me for drawing my own conclusions. I hope they're right. I hope, I hope.

Dart's entrance into the comroom startled a lone technician. The youngster lounged in front of a large console with many buttons and a keyboard. He shoved a book into a drawer.

"You're certainly busy," Dart snapped, taking advantage of the situation. "What's this you're reading? Let me see it?"

"Yes, sir," the youngster said, swallowing. He opened the drawer and held out the book. *BTA in Action*. It had Proctor on the cover.

"Uhhum," Dart said, eyebrows raised. "Propaganda. And theirs at that. Don't believe a word of it. You men certainly live a cushy life around here, don't you?" He gestured at numerous pinups on the wall. "When I was first secretary around here, we ran a tighter ship."

The youngster gulped. "Yes, sir."

"Got an emergency," Dart said. "Get cracking on this message to Tack. Priority. Security code one."

Dart held out the sheets, and the technician went to work. He pulled out a book and looked something up. From a cabinet with little metal drawers opposite the console he selected a plastic card, inserted it into a slot on the console. Then he sat down before the keyboard.

Dart relaxed. He felt in control.

"Does this door lock?" He gestured toward the frosted glass. "I don't want to be interrupted. This is

a priority one." He wanted to drive that point home.

"Yes, sir," the youngster said. "At bottom, there, under the handle."

A small button activated the electronic lock. The bolt slid home with a buzz.

Over the technician's shoulder, Dart inspected the words as they appeared on the scriptoplast fed into the machine from a roll. The youngster sweated. Priority one was not an everyday occurrence.

QUERY GROUND BASE READY TO RECEIVE PR SI, Dart saw on the sheet.

The keys were still. Nevertheless, the machine clackered rhythmically in readiness.

That single line would cause quite a stir back home. Dart imagined men around the console, one man breaking away to fetch a supervisor.

The clacker intensified. It seemed as if the machine were gathering strength. Then the keys began to move with great rapidity. A message appeared.

QUERY RICARDO REPEAT/CONFIRM PR SI SHOW ID CODE

The technician looked up at Dart with a question in his eyes.

"Confirm," Dart said. *They don't want to believe it*, he thought.

10834 PR SI CONFIRM STOP
STANDING BY FOR GOAHEAD,
the youngster typed.

The answer came immediately.
QUERY RICARDO IS PRESENCE
OF JT DESIRABLE/NECESSARY

Is presence of JT desirable/necessary. . . . The words caused a rush of delight mingled with anxie-

ty. Jonny must be available for communications, else base camp wouldn't have put that question to them. A dialogue with Jonny would be most desirable. Above all Dart had dreaded a long wait for a response from Tack, unsure how the man had received the message.

"Desirable," he said to the waiting technician, who now typed the word.

SEND MESSAGE RICARDO
STOP WILL SEND FOR JT

The technician spread out and smoothened Dart's sheets of scriptoplast and began to type slowly. He had difficulty deciphering Dart's small and crabby hand.

Dart watched through deep-set eyes, anxious that every word should make it across the vast distance to Texahoma. He felt the excitement rise, mixed with a good deal of fear now. . . now that he had made a commitment to act.

He wondered what it was like in base camp. Did the sun shine? Did rain beat a drum on the canvas of the tents? Did the steppe wind blow, ironing the mutagrass?

So much depends on the weather, he thought anxiously. What if it rains and Tack's in one of his ugly moods?

The Tacks of Kaysee had a mean streak. Genius had its price. The Tacks paid it in the coin of occasional madness. Old Tack had had his share of that blood, and Jonny had inherited both: his father's gifts and curses.

At last the message had gone through. The technician's hands rested on the keyboard.

MESSAGE RECEIVED RI-
CARDO STOP STAND BY STOP JT

HELIUM

MAY WANT TO DISCUSS. RE-
PEAT. STAND BY.

Dart tried to guess Tack's reaction to the message. Would he frown? Would his eyes be puzzled? Would the muscles of his neck tighten in anger?

Dart's heart beat hard behind his wrinkled throat. He nearly shivered with tension. The machine clack-ered evenly. Its internal hammers drummed a tattoo against the retaining bar, eager to tap out another message. Then the machine's noise intensified and the words came.

FRANCO OLD BUDDY IS
THAT YOU QUERY

It's all right, Dart exulted, staring at the words.

He noticed the half-anxious, half-admiring look on the youngster's face. Few they were, few indeed, the men Tack addressed as "old buddy."

"Tell him, 'Yes, sir,' " Dart said.

The technician typed.

The machine responded immediately. Dart imagined Tack next to the machine, his hand on his hip as he dictated.

HOW DO I KNOW IT IS YOU
OLD SCOUNDREL QUERY
SEND YOUR PERSONAL ID
CODE AND WAKE UP HEAR

Dart smiled. It's be all right. He recognized the tone. Jonny was in one of his funning moods.

"Four nine two," he said. "Five eight seven. Nine nine one."

The youngster typed.

JONNY TACK

Tack stood next to a console, his

legs wide apart. One of his hands rested on his hip. His head was shaved with the exception of a thick sheaf of hair at the crown which, in the shape of a bushy horsetail, hung down blond and shiny over his back. A pinched and angry expression sat on his face.

He waved his arms and yelled: "Somebody fetch me a chair."

Men stirred into action. Seconds later a wood-and-canvas chair appeared behind him. He fell into it.

"Is it Dart?" he asked.

The man at the console looked up from a list and nodded.

Tack stared up at the sagging canvas roof, at the wires that ran along a wrinkle toward the pole-supported tent tip.

"Write," he said to the operator. "Franco, you old skunk, I read your little message, but it's sneaky as hell. What're you trying to tell me?"

Tack glanced about. A ring of men had formed at a distance. "Clear the hell out," he yelled. "Out, goddammit!"

Tack sat stretched out in the chair, legs forward, the heels of his boots sunk into the canvas flooring. His horsetail fell over the bright-green back of the chair.

He wondered how long it would take to get the story out of Dart. The old man always hedged his bets. Nearly in his grave, the old coot, but ambitious as hell. Sometimes that could be useful in a man, especially a suspicious little ferret like Dart.

Tack weighed all the factors while the machine clackered, grew agitated, and the keys began to flash.

Dart hated Bono. But Dart was a gutless little rat. He wouldn't dare accuse Mycal of anything unless it had substance. Come to think of it, Tack wasn't sure Dart had made an accusation. The message had been vague, full of odd hints. An irregularity in the hostage demand. . . ? What in the hell was that supposed to mean?

"What's he saying?" Tack asked.

The operator pulled up on the yellow cable paper to read the message.

"My message, I believe, is clear and concise as to facts," the operator read, "in essence I am asking for confirmation of the fact that the hostage demand can deviate from your signed and approved instructions."

"Double talk, garbage," Tack shouted. "No, don't type that."

He stared up at the canvas ceiling again while the operator waited.

Something had been done up north. Had Bono changed the hostage demand? Dart would never come right out and say it if left a chance.

"Write: Did Bono present the Ecofreak demand to BTA? Yes or no?"

Keys clattered.

"Yes," the operator said after a moment.

"What was the hostage demand. Give the name, only the name."

Sidney Unsler. It'd better be that. A bold, clean jab right at Union's solar plexus. The number two man in Union. That should extract the sil-components in a hurry. Tack remembered the loud, whining arguments about the negotiating

strategy. All kinds of devious schemes had been proposed. Tack had listened to all the garbage. Then one night he had smashed his fist on the table and had told the talkers what he wanted. A simple, head-on strategy. No monkey business.

He glanced at the operator. "Well?"

The man shrugged. "They haven't answered yet."

"Goddamn," Tack yelled. "Can't they spell?"

Just then the machine clattered briefly.

The operator rolled up the paper and leaned into the machine. When his head came back up, Tack saw agitation in the face, a kind of cringing.

"Well?" he called sharply.

"Sir," the man said, almost in a whisper, "Regina Unsler."

Tack leapt to his feet. His face turned purple. Veins bulged on his forehead. He was a very tall man. His head almost touched the inclined roof of the small tent. Two great strides brought him to the console. He tore at the yellow cable paper. It came away from the machine with a sideways rip.

He stared at the black letters. They spelled REGINA UNSLER.

"Confirm," he croaked to the operator, choked with emotion.

He had nearly forgotten the little bitch. She recalled a troubled time. . . those sweaty nights, his father's thundering anger, the humiliation of six months' penance in the steppe with the herds—all that rolled around in him now like a down-dipping tornado.

Above all he remembered with a

shudder the meeting with his father in the old man's Wellhead home. "Stand there, by the door," the old man had ordered. And while Jonny stood there feeling small and intimidated, his father cleared a large space in the middle of the gloomy room ringed by pictures of the ancestors going back nearly to LNW-XIII. His father pushed the table against the wall with a crack, shoved chairs out of the way. Lamps crashed as he moved furniture. That done, the old man turned with a flash in those eyes beneath the bushy grey brows. "I'll teach you to sully Tack blood," the old man thundered, a fist in the air. "Defend yourself like a tribesman." Then his father beat him to a pulp. The old man had been strong like an ox to his dying day. Tack remembered spitting blood on the carpet on hands and knees when it had been over. Then he'd been sick. The old man forced him to clean up the vomit with a bucket and cloth like a mutant slave.

"They confirm," the operator said.

"Write," Tack said. "Dart, I want to hear it all. Every bit of it. From the start. I don't want any double talk or I'll have you skinned. Straight, Dart. Straight."

As he waited, Tack tried to give Bono the benefit of the doubt. Bono might have found some information unknown to Ecofreak before. Regina might be better insurance that the components would be delivered. But as Dart's message began to clatter over the machine, it rapidly disabused him of such notions.

He found it easy to construct a picture from the words—five-

percent. . . tub. . . ball. . . dancing
all night. . . refused to go
home. . . disappeared from
the. . . no sign at breakfast. . . late
arriving at. . .

The machine finally stopped. Tack stared at the yellow paper. He said: "Tell him to stand by."

Around the low walls of the tent many consoles formed an electronic wall. In the middle a thick central pole supported the roof. Tack began to walk around the tent. He folded his arms across his back, unaware that it was a mannerism he copied from his father. His head was tilted forward. His eyes stared at the slightly cuffed tips of his boots.

He let it all sink in without resistance. He was surprised by his own reaction, so bland, so mild. So he had been betrayed. It was so simple that he almost laughed. The Brotherhood of Action had nursed a snake. The poisonous viper had turned and struck.

Very well, very well.

He walked in a circle. On his boot tip a rock had torn the shiny skin, revealing the white leather flesh beneath.

The Bono clan had its roots deep in Texahoma, but the family extended far across Hinterland. Tack recalled Bonos as far north as Chica. Bono fem-folk, in addition, linked the clan to many shades of political conviction. The poison must have crept into the inner circle through one of those capillaries.

Tack conjured up an image of Gordon Gono, Mycal's father, and recalled that Gordon had never been an enthusiastic Activist. He'd had an independent streak—ever off to tend his property. Yes, Tack

thought, the Old Man had said as much once. A loner, Gordon Bono.

And so's his son! he thought with sudden fury. *So's his goddamned son!*

Not a mainstream Activist. A little distant, a little aloof. Smart, smooth in a way. Tack had picked him for his quiet, brainy manner. The kind of man who'd get along with Union folk but bright enough to read them. And Tack had thought him strong—not a talker, not running at the mouth all the time.

But he'd been wrong. The man was weak. *I sent Union a five-percent, a shakey-wakey, a jelly-ass. Oh, please Muster Union, suh, make this pressure to stop.* Not a man who'd bite his tongue and tough it out. A wobble-knee.

Then a complex emotion of rage, jealousy, envy, and longing possessed him.

He saw Bono ride Regina's wicked, foamy saddle through the night. He saw them strive. He felt a pain and, mixed with it, he felt a treacherous twinge of excitement in the loins. It recalled the Pact of Chastity.

Mycal Bono, he thought with bitterness. He who had refused with a handful of others to join the crusade Tack had proposed to the Inner circle. Most had sworn a solemn oath to shun fem-folk until the structures fell. Bono hadn't said a word, hadn't explained himself. But when the others stepped forward, Bono stood his ground with a few. He was a bachelor and had no reason to refuse.

It seemed to Tack doubly contemptible that Bono, the five-percent, the one man in twenty

who couldn't take gravitron, would tiptoe after structure-ass the day he hit Ricardo. And he'd known where to go! Tack's face darkened.

The House of the Lord must be swept clean. He'd trace down the linkages that led through Bono blood to the treacherous Accommodationists. He had been too soft on them. He had let them scatter to their wells, herds, farms.

The Lord's brush would sweep through the heap of Accommodationist garbage. He'd order an action as soon as the structures were down. Until then he needed all the support he could get to hold the fragile Counter Union together.

The thought of the structures brought him out of murky reverie into the cold, bright present.

What if he didn't get the silco-parts? What then? His base of power would begin to crack. The tribes would drift apart again. His father's dream would crumble; the structures would still stand.

No, he thought with vehemence. Never!

He broke his stride and crossed the tent to the manned console.

DART'S TRIUMPH

Bono lay on the bed of his locked bedroom and spoke on the tel with Regina. He was puzzled, worried, and delighted all in one. Despite tear stains, Regina's face was beautiful. Her tone had a kind of desperate edge. Bono had tried to discover what bothered the girl, but she had avoided his questions. Instead she had pursued a single objective—to get him to come to her domain.

"Will you come?" she asked again.

Bono drew closer to the tel. He lay on his stomach and cradled the small device in his hands. The bedroom was large and comfortable. Thick white hare rugs lay on the floor. Photos of Hinterland scenes hung on the wall. An orange lumiglobe burned on the night table to his right.

"Of course I'll come," he said. "You know I'll come. But I thought that you were adamant. No message on the Media—no togetherness."

"Did you ask for me?" Her voice was anxious.

Her manner disturbed him. She revealed a state of unnatural excitement. Her head flicked to the side with short glances as if she expected an interruption. Could she be afraid of something?

He said: "I asked for you, darling. They have the demand. I told them to announce it on the Media. But it wasn't on the news."

"I know," she said indifferently. "I watched. . . . Can you leave now?"

"Of course," he said. "But. . ." He hesitated. He longed to be with her, but he couldn't go through another night of unsatisfied desire. "Do you really *want* me? I didn't satisfy your condition."

She shook her head furiously from side to side. "That doesn't matter any more. I shouldn't have been so cruel—not for my sake, not for yours. Hurry, darling, and be careful, very careful."

She's afraid, she's anxious. Something is wrong.

"I waited and waited for you to

call," she continued in a burst of words. "I called and called the embassy, but you couldn't be reached."

Regina sounded like a woman in love, and Bono felt buoyed up by her longing, which he shared.

"Now you have reached me," he said, thinking back over an afternoon filled with angry altercations between himself and the delegates. They had sought him out singly and in groups to demand explanations. He refused to discuss the matter, but in the process also discovered how totally indifferent he felt about the Helium round. Only she mattered.

"Tell me," he said. "You said that I should be careful. Why? is something wrong?"

"Nothing," she answered, but Bono saw a furtive motion in her eyes. She appeared to change her mind. "There. . .there are some strange men outside. I. . .I don't know what they might want. . ."

"I'll be right over," he said, alarmed more by her manner than her words. "Right away."

He undressed and took a quick shower. The rush of water enlivened him, and his sense of dull fatigue gave way to exhilaration. He dried himself before the mirror, pleased by his lithe, hairy, healthy body.

For a second he felt again what he had felt the night before—an irrepressible good humor.

"Hey, man," he said aloud to his mirror image. "Hey, you know something? I don't give a shit about the Crestmore prophecies."

He grinned at himself.

The grin reminded him of another Bono—his younger self. A flash of

insight sobered his face. Then he broke into a grin again. It had occurred to him that all those years at the Academy of Action had been a sham.

He combed his hair and beard. He gave a twirl to his mustaches. He thought: *I really don't believe in that religion stuff. Hell, I don't want to change the world. Jutting nonsense.*

At the moment the world seemed marvellously beautiful. There she was, almost within reach. He frowned for a second, thinking of her strange mood. Well, he would console her.

He left the shower and quickly dressed. He whistled a tune. The words went: "I am a kid from Texaho, the prairie she be my hooome. . ."

Across the room hung a photograph of the many-peaked Sierra Petra. He stared at it while his right foot wiggled and worried into his boot. Then he heard the drumbeat of feet outside. He looked at the door. Someone called his name.

"Bono! Are you in there? Open up!"

He recognized Dart's voice and heard its harsh, commanding tone.

Bono instantly grasped the situation. Damn! He shouldn't have showered. No matter. In all leisure he pushed his foot into the boot. Resistance would be useless. He'd think about Regina when all this was over.

Outside Dart hammered on the door and repeated his call.

Bono opened the door at last, and the little man nearly fell in. One of his fists was raised. In the other he held strips of blue scriptoplast. Sev-

eral of the delegates stood grimly behind him, hands on the handles of ceremonial daggers. They appeared to be under the command of beefy Dulsol, chief of embassy maintenance, who held a pistol.

Dart lowered his arm and composed himself. He inspected Bono's face. The forked beard stood out aggressively, the mustache tips were turned up. Dart felt sorry for Bono. He had the face that should make structures crumble. But he lacked that special something... that vibrant quality of leadership.

In the center of the room Dart took up a dignified stance, one foot out in front of the other.

"Better sit down, Bono."

He eyed the ex-chief with displeasure now. Bono had a little grin on his face. That grin would fade away in a hurry. In no time at all Bono would be on ice.

Bono smiled, amused by the little man's obvious air of self-importance. He decided to humor the little rat. He walked to the bed, sat down on its edge, folded his arms across his chest.

"Let me read you something, Bono," Dart said.

He arranged scriptoplast sheets. "I have a cable from Jonny Tack," he announced. Bono saw sparks of triumph in the deep-set eyes. "Let me read you what the leader says."

Dart looked up at Bono and noted that the man still grinned.

"I, Jonny Tack, Leader of the Counter Union, apprised of certain treasonable activities by my appointed Chief of Mission, hereby remove him from that post and order him delivered to me under armed guard. I appoint Franco Dart

acting Chief of Mission until such time as a new chief can be appointed."

Dart lowered the scriptoplast and looked at Bono. He said:

"This much you have need to know. There is a good deal more, of course. It might interest you to know that I am also provisional ambassador."

Bono came to his feet and made for Dart. For a second Dart retreated, thinking this was an attack. At the door Dulsol lurched forward with a grunt. But then Dart saw Bono's eagerly extended hand.

"My dear Franco," Bono cried, grinning, "Let me be the first to congratulate you."

Dart withheld his hand for a second and viewed Bono with dark suspicion. But the man's eyes seemed sincerely pleased even if that grin was insolent, and congratulations *were* in order. Dart took Bono's extended hand, shook it, dropped it, and withdrew a pace or two with a sideways glance at the waiting delegates.

"You have a big job ahead of you, Franco," Bono pursued. "Good luck to you. Now, I suppose, you'll put me under arrest? Or do I start for home tonight?"

"Take him away, men," Dart said, almost in a whisper, and Dulsol's huge hand soon grabbed Bono's elbow, jerked. Bono walked down the hall, thinking about Tack, thinking that this move was typical of that ox. He hadn't checked with Bono, hadn't called for his side of the story. Tack had acted from emotion—as always.

The guards led him through the ornate parts of the embassy and

from there into a neglected, empty wing. Two men walked in front, two behind. As the group turned a corner, Bono saw coming toward them another and similar complement: two guards, a young woman, two guards.

In the narrow, dilapidated corridor, the groups had to squeeze past one another. For a second Bono looked at the girl and she at him. Her situation seemed like his own. Her eyes flashed a knowing look. He had never seen her before. She wore a long, blue gown and had a white stole over her shoulders—very formally dressed for a prisoner.

In a second she was past and he continued on toward whatever prison Dart had decreed.

THE LITTLE SPEECH

Eight flames of the inner circle supped around a low, rectangular table seated on legless, cushioned chairs. The lights were dim, music subdued. Pink-robed servants chosen for small size and delicate features hovered around the guests or moved about in the obsequious small-step. They served Peacefreak duck in dark wooden bowls and hot Maoling wine in shallow, pearl-white porcelain cups.

"This casual—dare I say haphazard?—meeting pleases me the more in that no conquest past or prospective will be feasted, and we are joined merely as close friends."

Through the faintly blue curtain of incense smoke that rose to the ceiling from a slit in the table, Clafto Meyer listened with a smile

as Luke Payne began his little speech in faultless Latin.

The dinner had been called on short notice as a kind of secret celebration. No one quite said out loud why they were gathered here, the men closest to the Fire, but each one knew the reason, and each knew that the others knew, and so what Payne said had a special significance. It was titillating precisely because he didn't say it all.

Payne lifted his shallow cup, held it in both hands; he spoke with his face inclined over the wine. He was the fifth man to try a little speech, but Clafto was sure that Luke would outdo the rest.

"As I taste the fire of this wine and savor the fey aroma of the steppes, I disagree with Jackson, Clafto. The question is before us: What is the peak of all delights? To Jackson it's a blooming rose whose soft red petals gently cup a dew-bedecked, delicate, pink interior. And he would be a hairy bumble bee with leave to plunge into that rose to bathe in the dew and suck the nectar. And if the petals should close at night, he'd gladly gambol in that soft prison until dawn."

To the sound of appreciative chuckles, Luke Payne looked up.

He is delightful, Clafto thought. *He has improved on Jackson's little speech and hasn't had his own say yet. It'll be bawdy, so much is certain.*

Clafto was glad that he had dropped the hint this morning after his talk with the Fire. It pleased him that the senior flames had organized this feast. Sidney's second in command deserved such small, thoughtful attentions.

Clafto found it especially appropriate that he should be held in such esteem. Unlike the others, he wouldn't be replaced. None of Sidney's earlier favorites had complemented the Fire's personality to such an admirable extent. Sidney had said as much this morning.

He looked about at the flames and thought: *They vie for my favor. Next to Sidney I'm the most important man in Union.*

"The peak of all delights?" Payne asked rhetorically. He had a scar from ear to chin on his left side, a special mark of initiation acquired in Sidney's gymnasium. In a face somewhat flushed with wine, the scar was white.

"To me delight is in the doing. I like to make things. I like to cook, to bake. I love the smell in the kitchen, the heat of the stove. My favorite activity is to bake a little cake, a tidy little loaf, you understand, with a neat little crack in the middle, nicely rounded and browned. A puckered little crack, my brothers, and hot inside."

Through an arched opening opposite Clafto's seat at the head of the table, he saw a servant appear over the shiny marble floor of the outer hall. The servant came toward them in a hurry.

"To make my favorite cake, I first take two eggs and I put them on the table. Two eggs," he said, stressing the point, "if you see what I mean. Then I pick myself a little pot. Not too large, not too small; a round little pot, white and red with a bit of black in the right places. I put the pot next to the eggs. Then I take a little lard, smooth, silky lard, gentlemen, just

enough to cover a finger, and with it I smear the inside of the pot, not too fast and not too slow, but all around the lip and then deeper and deeper. I *probe* the pot, I *plumb* its depths with that lardy finger, slowly, as if I were caressing something. . . ."

The servant had stopped next to Clafto, bent down, whispered.

Clafto rose. "You must excuse me, friends," he said. "Something has happened."

He followed the servant out of the room, through the arched doorway, across the marble. The blue light of an active tel shone from an alcove. He sat down before it and looked at one of the sparks of his group—Silvester.

"Well, Sil? What's up?"

"We've got her," Sil said. He seemed out of breath. "Eerie fem, cold as ice."

Clafto raised his eyebrows. "Show me," he said.

The image in his screen began to move as Silverter lifted the tel on the other end and pointed it toward the center of a murky room. Clafto saw the wife of French demurely seated on a chair. He couldn't see her features clearly, but he recognized the blue gown and white stole.

The tel returned to its original angle and Silvester's face reappeared.

"How did it happen?"

Silvester shrugged. "The embassy door opened, and there she was. It looked like she had been pushed or shoved out. She didn't leave of her own accord. We let her walk down the street a bit, then we picked her up."

Clafto frowned. Although he couldn't decipher precisely what BTA might have in mind, he feared a trap of some kind.

"Where are you now?"

"Upstairs in the Cosmos Club. In the private rooms."

"Good. Stay there. . . ." He thought for a second.

Silvester had three others with him. The group was too small if BTA had ideas of a rescue. Word had come from Blottingham in mid-afternoon that unusual things were going on in BTA.

"I'm giving dinner with some men of the circle," Clafto said. "After we're done, I'll come to get her—with a larger party. Just in case BTA is setting up a trap. It might be late, but we'll be there. Meanwhile, don't let her get away."

Silvester nodded.

"Cheers, Sil. And good work."

Clafto switched off.

Sidney would be delighted. The wife of French was better than nothing—precious bait. She'd lure the man. But it bothered Clafto that she had been so easy to capture. Why had she been expelled from the embassy? Where was her husband? The situation demanded extreme care.

He returned to the dining flames.

He stood for a second before sinking into his cushioned seat.

"Fortuna smiles," he said.

"We've caught the female. Silvester has her upstairs in the Cosmos Club. I propose a little venture, brothers. Let's dine in leisure. Then you might accompany me to the Cosmos with some of your sparks. From there you might escort me to

West Tower Top where I have a little chore or two before me. . . ." He smiled. Faces smirked back. "Then you might deliver our prize to the Fire. He told me this morning that he has a personal interest in this little matter."

IN THE STADIUM

Half past ten.

French walked down stairs and stopped in one of the entrances of the hexagonal BTA stadium. The place echoed with voices. People moved about. Someone experimented with the lights, dimming them on and off, switching entire sections.

Once this room had been the Hall of Burgesses. Now it was a gymnasium, ballroom, assembly hall. Basketball goals hung from the ceiling. The floor gleamed with painted lines for all manner of games. Bleachers pressed up against ancient marble.

BTA staff milled about on the floor. Some wore jump suits and toted chemguns. Some wore robes and had obviously come to watch the evening's entertainment—whatever it would be. French had still to learn the details about Operation Hairy-Scary.

He didn't see Dickens, Gomer, or any of the other leaders.

French suppressed a pulse of irritation. He moved into the stadium carrying his chemgun. Its barrel was telescoped down so that the device was barely more than a pistol with an over-large stock. He sat down on a bench to wait.

A deep breath and its slow exha-

lation failed to break his tension. Since that moment in the elevator when he'd looked forward to this hour, French had had a wretched time. His only consolation was that his preparations for Miri's security had gone well enough.

He had called Miri in mid-afternoon. Reluctant tribesmen brought her to the tel, and French reassured himself that she was all right. He recalled now the warning she had given him. He'd asked her how she was, and she said that *she* was all right. But she'd had a troublesome intuition, premonition, call it what you will. About him. She urged him to be careful. He couldn't get more out of her with tribesmen watching the conversation.

French wondered what she could have had in mind, then shrugged it off. He could take care of himself. Everything would go smoothly.

After several attempts, he had reached Dachsy Jones less than an hour ago. The leader of the Kayring Gang had wrinkled up in embarrassed pleasure at the sight of French—embarrassing French in turn. Years ago Dachsy had been Number Two and French a youthful runner in his service. But now their roles seemed reversed, at least so far as Dachsy was concerned. Dachsy had scratched his short-cropped head, shy like a youngster. He insisted on calling French "sir." When French explained the situation, Dachsy offered to rescue Miri himself with men from the gang, all eagerness to help. But French shook his head. All he wanted was a safe place for Miri. They made an appointment for eleven, eleven-thirty,

at the Scuttle-but, a coffee house controlled by the gang.

French stared out over the stadium floor. People moved about aimlessly, restlessly. If Dickens didn't show up soon, French would be late for that appointment.

Miri's safety mesmerized him—had distracted him all day long. French had never before experienced the tension between personal and collective concerns as deeply. The sooner she was safe, the sooner he could devote himself to the job at hand.

Proctor's single-minded madness had intensified rather than diminished during the day. The man had convinced himself that Ecofreak would deal with him if he held out the silco-parts. Which was true enough. French had the same conviction. But it was wrong—dangerously wrong.

Proctor's eyes had narrowed sharply during their last session together. French saw himself reporting wearily, exhausted by the all-day session with Clemmens, Fulbright, and the staff. That session deteriorated into a brawl of words at the end. Clemmens and the staff withdrew to one pole, Fulbright to the other. French tried to mediate between the two, but the combatants were beyond reason. At last Fulbright stuffed his briefcase angrily and left in a huff. French had to tell Proctor that no consensus had been reached. The silco-parts *might* be oscillation control devices, as Clemmens had insisted they were; or they could be "components for some magical prayer machine," as Fulbright, in a moment of white fury, had shouted in a shrill voice.

Proctor said: "Let's hope they are oscillation what-you-ma-call-its. I don't think Ecofreak will risk much over prayer wheels."

We are losing our minds, French thought in the stadium, rubbing his eyes.

Right now, with Miri in the Ecofreak embassy and flames all over the place looking for him, French saw the Secret Agenda in a very different light. Politics didn't seem important. Even the plan itself appeared to be a fabric of madness.

Preposterous notion, French thought. An old incident served as model for the plan. Eight years ago three gravitron drums had failed suddenly in South Tower one summer night. For reasons that were still under investigation, the back-up units failed to come on line and structure collapse began in South with a series of horrible thundercracks. The ensuing panic shook Ricardo to its foundations.

But there was a big difference between that event and what Proctor planned, French reflected. Eight years ago the trouble had been quickly fixed. No revolutionary group had waited in the wings, ready to exploit the panic. This time the trouble would last as long as Proctor wished. And the Group would be poised for a coup.

French yawned and stretched his arms toward the ceiling.

Could Proctor hide an Interdiction for five days? he wondered, slumping again. Even with the full cooperation of the Ministry of Engineering? In five days reserve supplies of the gas would be exhausted. At that point the grav-drums would begin to heat up. Automatic temperature con-

trol devices would begin to slow down their revolutions. The gravitron would thin out in the cables. Thundercracks would resound again. And there would be no Helium in the pipeline, no way to fix the problem. Panic everywhere—panic in the towers, panic in Top Level, panic in the Ministry of Defense. But one voice would be calm in all that uproar—Proctor's voice over the Media and the public address system. The Unsler's have gambled with your safety, people of Ricardo. But I can restore the Helium flow if you give me the power. . . .

Unreal, French thought. *Unreal*.

He shook himself and stood up. Exhaustion robbed him of objectivity. The plan wasn't all that bad. He'd thought about it often in the past and it had seemed a reasonable, even a clever scheme. Nothing less than the threat of structure collapse could shake Unsler's grip over the instruments of power, could wake the people from their dreadful apathy. It all seemed crazy now, but French was tired and depressed.

Where in the hell was Dickens?

A catnap in the cubohome Dachsy would put at their disposal would refresh him enough so that he could come back and do battle again, French thought. Clemmens needed help. Before French had left Proctor, Proctor had ordered plans to be drawn up, schedules to be fixed. "Proceed as if we were going to deliver those parts," Proctor said. "I haven't made a final decision, but should I decide, I want everything ready to go on short notice. As soon as you have a delivery schedule, get back to me."

He has to be stopped, French thought. I have to make him see reason.

A change in the low buzz of voices around him brought French back to the present. His eyes sought the origin of the excitement. Two men rolled a wooden log into the stadium as one rolls a barrel, on its edge. A bald man naked to the waist came behind the log with an axe in his hand. *What in hell. . . ?* French watched the men set up the block in the middle of the stadium. The bald man approached it. He hefted the axe back and sank it into the wood with a dull report.

Then French saw Dickens emerge from a narrow door between two sets of bleachers. His assistants came behind him. French rose and made toward the group. He wanted to know what that block signified, half suspecting that Proctor had flipped.

VI CAGED BIRDS

A group of flames in shimmering white robes moved above the inter-tower beltway. Passengers down below glanced furtively at the west-bound assembly, reserve in their faces. Prestigious family signs blazed in bright colors on the nobles' tubes—Sidney's companions. Best to be inconspicuous and to keep the eyes low.

Miri rode in the middle of the group surrounded by at least three circles of flames—a blue stone in a silver setting.

Clafto led the group. He wore a red scarf around his neck. He had

bathed and oiled his body for her after dinner. *A suitable love offering for the slender bitch*, he mused with an inward sneer, picturing Regina, relaxed at last. Leaving the Cosmos, he'd been a little apprehensive. But they had dropped down East shaft without mishap. They'd made it to the beltway undisturbed. They hadn't even seen a man from BTA. Blottingham's rumors were absurd. Clafto had suspected as much. Ridiculous notion. Proctor wouldn't dare challenge Sidney. Proctor was popular and this was a Helium year. Even so, Proctor had to think about the future. Bernie would die sooner or later. Then Proctor would have a new boss.

Clafto's thoughts returned to Regina. He'd jut her with a vengeance. To jut the little bitch would put the final touch on his new status in the Circle of Fire. Too bad Sidney had had to force her into compliance. But that would steal nothing from the pleasure of her lascivious *corpus*. Clafto imagined all the ways in which he'd force her to give him pleasure. He'd exercise her until dawn.

Behind him, masked by other nobles, Miri rode, her face serene, eyes closed. Right now, right here, she'd prove the Teaching, the subtle power of the Lady. Madonna sat at the Eternal Wheel and spun Time's gossamer thread. She wove it into the many-colored pattern of Fate. The Lady was transcending, omnipotent Mind. *Miri* was the Lady; she herself was part of that Substance. And if she could rise above the Bondage of Attachment, she too could weave a pattern with her mind. Any pattern she chose. The

pattern of love, the pattern of death, yes, the pattern of escape. Miri had never tried to do this. It hadn't been necessary. But now the time had come for a test.

She imagined a bird in a cage. She made the vision sharp and clear behind closed eyes. A flame operated her tube lest she escape like Frenchy had done the other night. She could devote herself entirely to her project—the yellow bird and a cage whose bars she imagined to be silvery white like the robes of her captors.

She set the image firmly in her mind, complete with all detail—the litter at the bottom of the cage, the tiny cup of water, the cage door and its latch, open windows across the room, a blue sky and a fluffy cloud beyond the windows. Next she imagined a hand reaching down. The hand unlocked her cage. In a flutter of wings she made a straight line for the window, and in seconds she soared high into the air.

Next Miri *felt* her freedom. She made herself feel it with as deep and real an emotion as she could muster. The Teachings said that strong emotion helped the process.

This done, Miri opened her eyes and took a deep breath—always a pleasure after intense concentration.

Meanwhile the group had entered West Tower's shaft, and the tubes were rising. She was as much a prisoner as ever, but now she was certain that she'd be freed. She had formed a clear, sharp image of her desire. She had watched it serenely. 'Detached Desire,' the Cult called it. At the end she had blessed the results with a powerful but directed pulse of feeling.

Above her in the shaft, Clafto's mind ran at random over recollections and anticipations. At the moment he thought about Luke's little speech and found that it had been superb, despite the interruption. Worthy of *magnificatio*. That ending when he'd broken the eggs and hurled them into the sweetened crack of the hot little loaf. . . *dolce*, truly *dolce*. In the end he would drape Regina over the back of a stool, head down, fingers to her toes. Then he'd crack his belt over *her* little loaf just to remind her of past rejections. From this thought his mind went on to imagine other things he might do to her in that bent-over position.

Under the sway of such rousing thoughts, he nearly missed the feeder street through which—a narrow *channel* (another clever theme for a little speech)—they would approach Regina's palace. He activated sidejets just in time, and his tube roared into the feeder. He checked his advance, glanced back. The group had followed and he went forward, pleased by his send-off. The brightest flames, the choicest of the choice. Once he had slipped into Regina's *burrow*, the whole assembly would continue on—a triumphal parade. They'd deliver French's wife to Sidney. No man who touched a flame could hope to escape the consequences.

He had nearly reached the end of the feeder when grey-clad men in large numbers appeared at the mouth of the channel. Some were in jump tubes at his level, some on foot on the ground—weird figures in gas masks. Chemguns pointed in his direction.

With an expression of painful surprise, Clafto turned and looked back at the group. Beyond them crouched more men. He thought of BTA just as the invisible gas reached him and he lost consciousness.

* * *

Selma burst into the mistress' favorite room. Through wide-open and somewhat bulging eyes she took in the scene at a glance.

The poor mistress sat on the divan, a clump of misery. Her legs were up. She hugged them against her body. Her chin rested on her knees. Selma saw her rocking dumbly back and forth among pink pillows on the white divan, wearing nothing but a flimsy blouse and a pair of panties.

"They're gone, mistress!" Selma cried. "They've left."

Slowly Regina looked up at her maid, a dull expression in her eyes. The eyes mirrored hour-long agonies—a roller-coaster ride of wild, turbulent hope followed by the sickening drops into suicidal despair. The eyes said: I'm tired, wrung out, flat. She felt like the gut-string of one of those guitars made by Bluegrass Territory that had lost its tension after too much play.

"Who," she asked in a hollow voice. "Who's gone?"

"The men, the flames."

Regina dropped her head to her knees and stared down at her toes again. Ten little ghomes, side by side. One little piggy went to the market, one little piggy went. . . . The toenails glistened with irides-

cent sheen. The polish changed colors slowly with every shift in temperature, however small. Made especially for her ladyship. Her pedicurist had sworn it was the only formulation of its kind in Union.

Gone. . . left. . . ?

She didn't believe it. All her faith had drained away like liquid from a cracked gourd. Faithless humanity. Mycal, the traitor. It was well past eleven, and he hadn't come. His passion must have cooled in the sobriety of day. He'd lied to her on the tel in the late afternoon. He wouldn't help her escape, and she feared setting out alone. Regina, the traitor. Regina, who'd betrayed herself, whose courage had fizzed like a punctured balloon. In the glass-domed garden upstairs stood jump tubes placed there on her orders. Two of them—one for him, one for her. When Mycal hadn't come, she had dressed to make her escape alone, through the roof. But she had shrunk from the venture and had slunk back defeated. She had undressed, had made herself ready for the inevitable.

Selma watched her mistress rocking, reminded of a child.

"Mistress, aren't you glad?"

"Glad?"

"Yes, glad. The men are gone. Don't you want to get away? Don't you want to visit Sister Serenita?"

"They're not gone, Selma. I know it. It's just a ruse. Just something nasty Sidney would do."

Selma had her mouth open, ready to answer, when they both heard the melodious chime from the front hall.

With a dull, resigned emotion, Regina understood why the flames

were gone. They were no longer needed. Clafto had arrived. She would be shamed after all. The days of hope were nothing but illusion. It would be like before. Four times now Sidney's chosen of the moment had stood before her portals waiting to be admitted.

I'll be like a rag. I'll submit like a thing, a soulless thing! And tomorrow. . . .

Something. She'd do something tomorrow.

"Let him in" she said to Selma as the chime sounded again, twice in a row, impatiently. "Let him in," she sighed.

AN EMPTY CAGE

French kept his finger on the button, and the pressure produced inside the first six notes of Woodstock, the Ecofreak tribal anthem.

The steel cable of his self-control threatened to snap. Tension and anxiety overrode the dull fatigue he felt. Conflicting needs tore at him and filled his mind with flashing pictures. Miri. Miri came first. In the press of troubles around him, he grasped for fundamentals. Self preservation. The family, however tiny. But French also feared for the larger family—BTA. He would go see Proctor the moment Miri was safe. Now he understood the chopping block. Proctor had to be stopped. His politician's flair for grand gestures would extract too high a price. *What's the matter with everything*, he thought. *Has the world come off its rocker?*

French rang the bell again. Worry

and fear gathered his throat into a lump. Why didn't Ecofreak open the goddamned door? He wanted Miri *now*! He wanted to know her safely hid away.

Behind him Gomer watched at the head of a small group of men, the flat face empty of expression. Gomer was an elderly man with a somewhat shapeless figure that did not make a good appearance in the tight-fitting, zippered jump suit he and the others wore. Gomer watched French, disliking what he saw. The grim, desperate look had come upon the young DA when they had swooped down on this spot approaching from either end of Outer Ring in a hurry, reflected in the glass and polished brass of the well-to-do housefronts and—hadn't found a single flame!

Thoughts ran through Gomer's mind, thoughts about "love" and slum kids who had risen too high. He for one didn't have the rank to traffic with the famous DA, Intelligence, but he knew what every man knew about the man—a real romantic, he was. No man would *marry* in this day and age unless he thought he genuinely loved. Love? Why, it was like astrology—not very reliable, but you couldn't convince some people of that.

Gomer hoped that the girl was inside, safe and sound. French had a reputation. People said he had a crazy streak, and it wasn't merely a fable. In his early days he'd volunteered—yes, volunteered!—for sixteen missions into Hinterland. If that wasn't evidence of madness. . .

Now he saw French release the bell. The blond DA stepped back and kicked at the portal once,

twice, again. The thick bronze door, decorated with pastoral Hinterland scenes in relief, gave a dull gong-like sound.

Balled fists. Flashing eyes. French looked as if fire would spout from his nostrils. Gomer couldn't escape the thought: A low-level man who had made good. Something about French brought to Gomer's mind a sense of the elemental, the crude, the uncontrolled. He must have looked like this in the East Tower slums—the gangster from Branco. No hint of the polish he'd acquired in later years.

French felt the cable of his self-control snap. He kicked the door again, his blood in a boil. On the second kick a small square window opened in the door, displacing a refinery of bronze. Black eyes, brows, the nose of a tribesman filled the aperture.

"I'm Rivera French," French said. "I've come to get my wife."

"She isn't here."

The statement came like a fist into his stomach, taking his breath away.

"What do you mean, she isn't here? Where is she?"

"I don't know."

French controlled the urge to leap at the tiny opening, to grab for the face.

"Open up," he husked. "Open up this instant. I want to see the ambassador."

Gomer heard the deadly tone and winced, wondering if he should step in to restrain the man. But then he decided it wasn't his place.

"Ambassador Dart doesn't wish to receive you."

"Ambassador *Dart*? Where's

Barney?"

Thoughts raced through French's mind. Dart had walked out of the negotiations. Last night he had opposed giving them sanctuary.

"Mr. Barney is no longer ambassador," the man said.

"Why? What happened?"

"I'm not at liberty to say."

Silence. Gomer watched French thinking. The blue eyes stared at the door, fixed to a spot next to the square opening. The DA's face was flushed. Muscles worked in his cheeks.

"What did you do with her?"

"Mrs. French was asked to leave."

"When? How long ago?"

Gomer noted a change in the DA's tone. Now it was cool, icy, but somehow even more disturbing.

"Seven, seven-thirty."

"Did you see flames on the ring?"

"I saw nothing, Mister. I wasn't here."

French abruptly turned from the door and made for his jump tube. Before Gomer could react, French jabbed the device alive with angry fingers. In a second the tube rose up and curved away with a scream of jets.

"Mr. French. . . Mr. French. . ."

But the DA heard nothing. Within an eyewink he disappeared from Gomer's view around the bend of Outer Ring.

ESCAPE

"Mistress, mistress, it's *him*!"

Regina felt confused. She would have been angry with Selma if

she'd had the energy to be angry. What did the silly female want.

She said: "Of course it's him. I told you that before."

Selma shook her head with great exaggeration. Her bulging eyes were wide open with some kind of mindless astonishment.

"Not *him*, Miss Ginny. The other one, the man from Hinterland."

Regina lifted her head sharply, uncoiled her legs, and jumped to her feet. Her fatigue had fled. The vigour she felt surprised her in a subliminal way. She saw her own image in the gold-laced mirror opposite, a girl in panties and a white blouse. But this was not the girl who'd sat in a miserable clump. The breasts were out, the chin was high.

"You mean. . ." she whispered.

Selma's head went up and down with an exaggerated affirmation.

Regina felt blood throb in her throat. One of her hands fluttered up.

"Bring him in," she said, "but give me time to slip into this."

Earlier, in anticipation of escape, she had worn a zippered fortress of a jump suit. She slipped into it now. It fit her snugly. The smooth silk over thermal fluff slid along her skin. The outside was made of miraculous polyhide with molecules so tightly linked a knife couldn't have pierced it. Her seamstress had designed it especially for her. No other lady in Union—

She saw movement from the corner of her eyes—and he was there!

With a gladness that made her sob, she flew to the archangel. Her tears moistened his face. She mum-

bled incoherently. Her lips sought his with a kind of hunger. Her hands caressed his face. Gradually she calmed down, withdrew a little, looked at him. Mycal's eyes echoed her own gladness, but his face was drawn and pale, his clothes dirty and rumpled. Soil clung to his hands, dried blood marked numerous cuts. She hadn't noticed.

Regina had a vision of Mycal fighting outside against flames to be at her side. She asked him what had happened. Had he been accosted in the street?

Bono shook his head. He said: "I'm in trouble, Regina."

He didn't *feel* like a man in trouble. He had passed through a kind of eerie hell and stood in heaven now—supplicant before the Queen. Behind him lay the pulsing darkness of a labyrinth of service chasms. He had escaped through a hole in the closet of his prison which had been blocked by a loose plate. He had groped and stumbled in the depths while tiny sparks electrified the air and clung to his beard like microscopic fire flies. Great shudders of machinery coming alive and dying terrorized him. Large rats shadowed his progress. They ran along ledges he couldn't see. They crouched on cable strands and stared hungrily through luminous, greenish eyes—Norway rat, the only mammal beside man to adapt to gravitron. Once he almost fell to his death when a section of railing turned into flaky dust beneath his hand. And now he was here again in the sparkling palace amidst tracteries of exquisite perfume. A tiny music lilted on the air, almost below the level of hearing.

He saw confusion in her eyes, elaborated: "I'm no longer chief of mission. They removed me and locked me up. I escaped to come to you."

Regina understood him now, and her heart leapt with pleasure. Now nothing stood in the way of escape. If Mycal no longer had duties in Ricardo, nothing would keep him here.

"Why," she asked. "What happened?"

He glanced aside to avoid her eyes. "You see, I . . . I exceeded my instructions this morning. I asked for you as hostage."

"And you shouldn't have!"

"I shouldn't have."

"Oh, darling."

She hugged and kissed him again, dimly aware that she did more than merely that required to secure his cooperation.

"I'm in trouble too," she explained, breaking away. "I've been told to stay away from you. It's my brother, Sidney. I can't hide you—and I can't stay here either. Will you escape with me? The two of us? Together?" Hope sparkled in her eyes.

"But how? *You?* Me? Alone?"

She nodded eagerly and took his hand.

Bono followed her in a kind of daze up the same stairs he had mounted the night before with such sure anticipation. Everything moved too fast for him. He couldn't keep track. He lagged behind himself, trying to catch up. His life had become a voyage on a mountain stream with sudden twists and turns and mind-boggling drops and flings. Water, rock, embankments. A boil-

ing, tumbling all around him. He was about to abduct Unsler's daughter? At her instigation? To take her where?

She stopped upstairs and pointed with a beaming face at two jump tubes as if they were statues she had just unveiled. Next to each lay a thick, fur-lined parka on the gravel path. On each parka sat a yellow mask of some sort attached by coiling lines to tubular devices with straps. To wear on the back? Oxygen?

"There," she cried with a note of triumph. "I've already planned our escape."

THE BLOCK

At first she heard the dull murmur of voices. Then, overlaid against that background, she heard the echoing fall of footsteps, movement. She lay in some sort of large place on a kind of narrow cot covered by a rough blanket. The blanket had been tucked in around her, under her feet. Someone had removed her shoes. Her head buzzed and ached. Nausea troubled her stomach.

Miri opened her eyes and closed them again.

From a spot very high in the ceiling, bright floodlights blinded.

She found the spot where memory had failed. She had been on a feeder street in West Tower's Top Level headed for Regina Unsler's palace. She recalled a swarming of grey-clad men, crouched with chemguns in their hands. Then had come a rush of darkness, a feeling as if her eyes were turning inside

out. And then—poof!

Darby Dickens' energetic voice cut through the confused noise around her.

"Up, up, up, you birds," he cried. "Quickly now. You too. Get up! Don't pretend, my noble friend. We know when the effect wears off."

Miri smiled to herself with eyes closed. Darby's voice told her that she'd been saved. A hand had reached down to free the yellow bird. She wiggled an arm from the tightly wound blanket and, shading her eyes, she sat up to look for Frenchy.

From her immediate right a voice said: "Ah, Mrs. French, you're up. Here, let me give you a hand. No pains, I hope. Your tube bounced about a bit after you lost consciousness, but we caught you before you had a chance to fall."

She didn't recognize the helpful young man. His hair was cut bangs-style across his forehead. He wore a button on his jump suit collar, and she recognized a management intern. He pulled her up from the cot. She stood for a second in her stockings, unsteadily, leaning on his arm, smiled her thanks. Then, eyes still shaded from the glare, she looked around for Frenchy.

The stadium. She had been here before for official dances when the ceiling had had a low-slung belly of festoons and a band had played on a stand. Proctor danced with Mrs. Sedlig in her memories—the pale secretary blushing crimson from the honor. Now she saw only BTA staffers packed on bleachers. A chopping block with an axe in its center (it resembled an upside down check

mark) dominated the middle of the room. What was it for? To her right Darby marched among supine nobles laid out in rows nudging now this, now that flame with the tip of a brightly polished boot. One by one the flames came to their feet, groggy, confused.

She didn't see Frenchy anywhere.

Several thoughts went through her mind more or less at once. She wondered what this was all about—the crowd, the block, her captors on the floor. The crowd scene stirred her artistic interest. The room suggested drama—a scene for a mural. At the same time she wondered where Frenchy was. Why had they assigned a trainee to wait on her?

"Quick, now, gentlemen," Darby called. "We can't be napping all night. Let's move."

Miri said to the trainee: "Is my husband here?"

"No, ma'm."

"Where is he?"

"He went out with another party, Mrs. French. They haven't returned."

The intern avoided her eyes. Miri grew troubled. How many groups searched Ricardo to find her? Didn't they communicate?

"What party did he go with?" she asked.

"He went to the embassy to get you—of course, you weren't there."

"And?"

He ducked her eyes, but she stared until he answered.

"Mr. French broke away from his party and went off alone."

Miri sucked in her breath. She had had that dark premonition. He

hadn't listened to her. He hadn't counted to ten, like she had asked him.

You are sound, secure, calm, and unafraid. She sent the telepathic message with the strongest pulse she could muster. She hoped that he'd be calm enough to receive her message. *I am well and safe,* she signalled. *You are calm, reasonable, confident, courageous.*

"Mrs. French," the trainee said. He took her by an elbow. "Now that you're up, may I take you to an apartment we've set aside? Mr. Proctor has instructed me to—"

"No," she broke in. "I'll wait here for my husband."

Yes, she'd wait. She'd wait until French returned.

The intern still held her elbow. He tugged at it, clearly agitated and embarrassed. "Ma'm I. . ."

She turned her head and looked at him.

"I wouldn't advise that you watch this." He gestured vaguely.

She followed his gesture and saw the chopping block. "Why?"

"All right, flames and sparks," Dickens bawled to the nobles; she saw him march up and down in front of the figures in white; they all stood, finally. "Out of your robes, all of you. Undress. Quickly. Down to your Adam's costume. Move! We haven't got all night."

Undress? Strange. . .

"What'll happen?" Miri asked.

The youngster glanced away, embarrassed. "Ma'm. . . it'll be harmless, but it won't be pretty. I urge you. . ."

She shook her head. "I want to see."

She threw off a pulse of an-

noyance. Why couldn't women witness ugly scenes. At the same time, she felt a stir of suspicion. This was more than a rescue operation, and BTA didn't want her to watch. Well, she would!

"Hey, you. Get with it, man. I told you to strip."

Darby addressed a swarthy man Miri knew as Clafto Meyer. She thought: *We're all connected.* She remembered a small commission from the Meyer family she had received some years ago, brought by a senior servant of that household. It had been for a series of inlays for wooden furniture. Since then she had graduated into portraits.

To her right Clafto experienced a rare emotion. He felt genuine, gut-wrenching terror. Like flashes of successive lightning in a dark and fearful landscape, his mind fed him information and insights. BTA had dared to touch him! Clafto Meyer, the plastosteel heir, the flame nearest to the Fire! Yet now a black man yelled at him in a tone. . . Clafto didn't understand the man. His ears buzzed. But he heard the arrogance.

"You," the black yelled. A finger pointed. It came out of a dark fist at the end of a dark arm. Around the dark wrist glowed a golden watch. "Get out of that robe. I won't tell you again."

Clafto understood now and burst into protest. "What is this? Who're you to tell me to undress. . ."

He heard the death of his own protest. Around him flames and sparks were more compliant. Some already stood naked with hands up front to shield themselves from scrutiny.

"All right, men," the black man yelled. "Strip him."

Miri watched the ensuing, feeble struggle as BTA men overcame Clafto and stripped him naked. They left him only socks and boots. The naked form. . .so noble in art. Here nudity was used as a weapon—to underline BTA's superiority.

She saw movement from the corner of her eye. A man—he was unusually tall, muscular, bald, and naked to the waist—approached the chopping block. She turned her full attention to him, plagued by an indecision in her mind: Was this an elaborate psychodrama staged for the benefit of the flames? Or was this more?

Raisin-balls, she thought, but couldn't place the reference.

Behind the bald, half-naked man came a camera on wheels. The camera circled the block until the technician operating it found his angle. Miri now became aware of other cameras spotted about the stadium and aimed at various spots.

The bald man worked the deep-sunk axe out of the wood. He tested its weight in a hand, took a step back. He lifted the axe far back over his shoulder, and with a loud cry—"Haay!" he cried—he sank the blade into the wood.

Miri glanced at Clafto to see his reaction. The handsome, hairy man was fearful. His eyes shifted incessantly. Three men held him, two on each side and one in the back. She found this excessive because Clafto didn't resist. Did they expect that he would. . .later?

This can't be real, Clafto thought. *I don't believe this. Why*

the butcher block? What significance the axe-wielding gesture, the loud cry of the man?

"Mrs. French, I really think you should leave now."

Miri shook her head. She was tense with expectation. She thought: *Surely they don't intend to harm these nobles!? Even Proctor wouldn't resort to low barbarism? Or would he? Could this be a practical joke? He is said to be quite a practical. . .* No, She doubted it. This—whatever this was—was more than just a joke.

"All right, men," she heard Darby call, "take him to the block. The rest of you, look lively. Don't let these birds panic."

Clafto's guards began to move him forcibly toward the block. She heard him cry: "Hey, what is this—Stop! You can't do this. I swear I'll. . ." His voice disappeared in grunting struggle.

Miri felt the man's hysteria. It spread like an acid stench on the air, choked the throat. Clafto wouldn't walk and had to be carried. He struggled all the way to the block where the axe-man hefted his weapon with a satisfied but eerie look on his face.

It's like a scene from a cheap vis-ishow.

Meanwhile other BTA staffers had swarmed out to take up positions on either side of the naked formation.

Miri watched in growing disgust. Clafto's guards, now joined by two others, forced the noble up against the block in such a way that his genitals lay on the rough surface of the wood. Four men held the madly struggling Clafto. The fifth crossed

opposite and rudely grabbed the man's parts. He stretched them out a little, away from the body. Claf-to's yell of pain shot through Miri as if it were her own. The chemblast nausea rose up in her again. *Degradation in the venerable stadium. Savage rite. Disease of the Cosmic Mind.*

"All right, you," Dickens now called to the naked nobles. "Turn around. You won't have to see this. You'll feel it soon enough. Go on, turn."

The nobles turned. Miri saw her own disbelief mirrored in their faces. But why did Darby make them turn?

"Mrs. French, please. . ."

"Please, for God's sake, people, this is. . .this. . .oh, God, let me go!"

Miri's eyes were on Claf-to's face. She dared not look down at the man's stretched genitals. She'd had no idea that the organ could be pulled so far from the body. A great burst of sympathy for the man went out from her to him, so patently fragile and human now—he who had chased Frenchy and her yesterday (was it only yesterday?).

Darby turned and signalled to the bald man. The bald man nodded. He lowered his axe blade over Claf-to's genitals in the way of a man taking aim. The he stepped back. Claf-to made one last effort to get away, but the pain restrained him. The bald man swung his axe back over his shoulder.

Miri turned away. She couldn't watch this. The bald man's loud "Haay," Claf-to's piercing scream, and the dull report of blade on wood all came simultaneously.



Head still averted, Miri said to the pleasant intern: "Take me away. Now."

"But, Mrs. French," he now protested, "you don't understand. . ."

"I understand," she said flatly. "Take me away."

Clafto's momentary swoon receded. He had almost lost consciousness under the brutal impact of emotion that had enveloped him. His eyes had gone black. Now he was back again and he felt release.

He felt. . . release?!

The pain in his genitals was gone or less intense. He opened his eyes, bent his head. He was still whole! The axblade sat embedded in the wood of the block, but it was a long way from his exposure, on the other side of the sawed-off stump. Two men were hurriedly smearing a red liquid on the wood from little bucket-like containers.

His captors hustled him out of the room. He went willingly. He was halfway down some kind of hall when the next man's loud screams echoed through the corridor. His guards pushed him into a room. Behind a desk sat a man in a grey jump suit. The room was empty save for that desk and a chair.

"Here, put these on," the man said, pointing to a blue jump suit, crumpled underwear, and a white robe on the chair. Clafto recognized his own clothing. Gladly, hurriedly, he dressed.

"Now understand this," the man said. "BTA won't be harrassed by flames or sparks or anyone. No more killings and attacks. Remember this well and pass it on. Next time the axe will be right on

target. Take him away."

Men took him to his jump tube in a garage. They watched him until he had cleared a guard booth and had entered the movebelt.

Clafto spurted away at maximum speed, a hollow sensation in his stomach. Proctor had dared the ultimate humiliation. It could only mean that the rumors were true and that revolution was brewing. No, more than that. Revolution had succeeded, else how would Proctor dare. . . .

MEMORIES OF NARSES

Proctor sat behind his desk and watched the action in the stadium over the same visimonitor that had shown him Ecofreak's entrance into Ricardo a few days ago.

His face was pensive, with a touch of puzzlement. Below the hardened surface of his every-day consciousness, something stirred. He almost had it, but it kept eluding him. It was a memory that would explain, he knew, why Operation Hairy-Scary pleased him so—despite the risk, despite its terrible timing, its potentially high political costs. But the memory wouldn't hatch.

A buzz on his communicator made him reach out. The voice of the night-duty secretary told him that Clemmens waited outside to give a report. He told the man to send Clemmens in. Simultaneously he turned down the audio on the visiset, and the loud screams faded away.

Clemmens came in and sat down with a sheaf of scriptoplast in his

hand. Somehow his presence underlined with a vengeance French's absence.

"We still don't have word of your chief, do we?" Proctor asked.

"No, sir."

The men exchanged glances. The glances said: We both know Rivera French, and both of us are worried.

"Where do you think he is?"

"I'd hate to speculate," Clemmens answered.

"Go ahead—speculate."

"He's looking for her. That'd be my guess. And you know where he is likely to look."

"Sidney's domain."

"Yes, sir."

Proctor shook his head. It was more of an incantatory denial than a conviction. "Surely not. The man can't be such a fool. Madness. Sheer madness."

Clemmens made a wry face. His expression suggested that French was capable of madness.

Proctor deliberately dismissed the subject with a wave of his hand. He thought: *Unfortunately I've set him a very poor example with this operation. Also madness.* Aloud he said: "Let's talk about silcoplast. What does it look like? Can we produce the parts?"

Clemmens passed scripto over the desk. "The first item is a production schedule," he said, keeping his tone cool and businesslike. It was not his role to discuss policy with Proctor. French would do that. When French returned. *If* French returned. "We've worked it out carefully and checked with all the producers. We had to get some plant managers out of bed, but it's hard information."

Proctor studied the sheet, looked up. "Four days? You can deliver in four days?"

"Yes, sir."

Proctor nodded. "And these other items?"

"Draft contracts and procurement orders. I didn't bring the specs and the drawings. I don't suppose you're interested."

Proctor shook his head. He took the production schedule off the pile and passed the other items back to Clemmens. "I'll keep the schedule; I don't need these things."

Clemmens made ready to rise.

"Stay a second," Proctor said.

"What's your opinion? Are these really oscillation control devices?"

"I'm sure of it, sir."

"But French tells me that Fulbright disagrees."

"He does indeed, sir."

"Don't you respect Fulbright's judgement?"

"I'm not in a position to judge the professor's competence, Negotiator. I'm just a simple engineer. But even genius can sometimes be wrong."

"Very well, Fred." Proctor scratched behind his ear. Then he looked at Clemmens. "And suppose you're right. Can you defeat the device?"

"I don't know, sir. How can you defeat something unless you know how it works?"

"But you could try?"

"We can try, of course. . ."

"Then try," Proctor said, nodding. "Figure out some minor change that's difficult to detect and work it into the plans."

I only need a day, he thought. *One day.*

"Will do," Clemmens said, and this time he rose.

Proctor nodded to him. "Thanks, Fred. Do the best you can. If we have to, we could deliver," he summed up, "in four days."

"Yes, sir."

"Very well, Fred. Your people did a good job."

Clemmens left and Proctor turned on the audio again. At the moment the camera down in the stadium focused on another group of naked flames. That picture suddenly triggered the memory, a long forgotten resentment, and Proctor knew why he had indulged himself with Hairy-Scary.

The memory moulded Proctor's face into a mask of slightly cruel glee.

He remembered it all now. His mind returned to New Ivy League—Nivylee, as the students called it. The school of schools. Cradle of leaders. Nivylee—the elite college that claimed uninterrupted descent from the best pre-structure universities. That school had accepted him on a scholarship for his uncontested brilliance, one of a dozen mid-level men admitted to the place. He studied with the fathers of the men who now screamed down there in the stadium, one after the other, each stupidly convinced that he'd lose his manhood.

The rich boys called him Narses Castratus after some obscure official of the Dimmest Ages, the Roman Time, which still inspired Very Big youths bent on the emulation of past decadence. He had a nickname which he refused to recall. When forced to disrobe with others for the

weekly physical education class, compulsory in the first year, the fathers of these worthless flames had chanted in the showers to spite him: "Not a dong, not a ding, not even a dingeling."

He had been a fat boy, his physical development retarded by gravitron, a not unusual phenomenon. In the second year his hormones began to flow. The butter of his moon-face melted away, revealing the hard rock of his chin. The pillows of lard beneath his eyes disappeared, giving free range to his hard, cold eye. By the third year he manipulated tutors and men and virtually ran the college. He graduated with honors. But he came from mid-level and had to enter the civil service at the lowest rung of the ladder, while his classmates went right to the top of agencies and industries.

Proctor smiled and shook his head.

All that lay thirty years back. He had risen once more and stood on the brink of another graduation. He could afford a slight indulgence, risk or no risk. If the greater scheme failed, at least he would have had *this* satisfaction. If it succeeded... why then he might think of other things to do with his erstwhile humiliators and their precious sons.

Now that he had found the memory, he lost interest in the activity below. He turned off sound and picture and fell to studying the production schedule.

Four days to produce the silco-parts, he mused. Four days. The basic schema that he had been turning this way and that all day began to crystallize in his mind. He would

try it. He'd attempt to deal with Bono, an exchange of treasons. He would deliver the components, flawed components, to be sure. And Ecofreak, in turn, would deliver the illegal Interdiction that would catapult Proctor to ultimate power. And as soon as he was in power, the negotiations would take on another character altogether. He was not an Accommodationist, no bleeding heart, had no fear of using missiles, and Ecofreak would learn that. Perhaps he would explode a bomb or two just to show them that the sil-parts didn't work.

He sighed tiredly. One last item and then he'd try to snatch a few hours of genuine sleep. He reached for the dictation button laid into the surface of his desk.

"A letter to Mr. Mycal Bono, Chief of Mission, Helium, the Ecofreak embassy, and so forth, the text is as follows."

He paused, thinking.

"Dear Mr. Bono," he began. "Union has analyzed Ecofreak's initial package, and we're pleased to give you the following reaction. Paragraph. Your demand for various products and components, including the communications switches made of welded silcoplast, appear acceptable." He paused, thinking.

"Comma," he continued, "provided that you immediately withdraw your demand for Miss Regina Unsler, the Unifier's daughter, and . . . enter with us into serious negotiations about various demands that we have. Paragraph."

He paused again, then went on. "Your demand for plastosteel is excessive in the extreme and cannot be honored. However, we shall be

pleased to sit down and discuss a reasonable level of shipment. Paragraph. Technical analysis shows that the electronic components you desire can be delivered to the four Staging Stations. . . ." He paused and glanced down at the delivery schedule. "The *six* staging Stations specified in your demand," he corrected, "soon after we sign an acceptable Helium deal. Paragraph." Was that too direct? He decided to let it stand for the moment. "We look forward to a timely response and stand ready to resume talks immediately provided that you can sincerely enter into the spirit of the points raised in this letter. Should you be unable to do so, I regret that we shall be forced to take appropriate measures to secure our well-being. Very truly yours, etc. etc."

Proctor replayed the tape and decided that some editing was required. The text was too obvious and had to be cast in a more subtle form. But he'd do that in the morning. For the moment it would do. He'd sleep on it.

VII

PRAYER ON THE PYRAMID

A leaden sky obscured the sun. Wind blew across the endless mutagrass driving speckles of icy rain before it. The wide plain was almost completely empty except for a chain of uniform hills spaced one kilometer apart. The remains of an ancient highway could be seen in spots linking the hills. To the left of this chain, looking east, stood the activist camp—a crowding of tents with horse corrals on one side and a

formation of helicopters on the other.

On the flat top of one of the hills a group of tribesmen stood in clumps approximating a circle around Tack. He sat in the center in the classic meditation pose. The men were silent and endured the rain with stoic expressions.

Only Ted Fannin was out of the rain. He stood in the narrow observation room of a high wooden tower that had been erected here recently. He felt the cold as keenly as the others. He shook his arms and ran in place to warm himself. On the window sill before him lay binoculars through which, from time to time, he observed the distant camp, on the look-out for signals that might be sent to recall Tack from his morning prayers.

Fannin had a good idea why the meditation lasted longer than usual. The news of Bono's defection had spread from lip to lip the night before. That, combined with Jonny's other troubles, gave the chief lots of things to pray about.

Fannin wondered, at the moment, whether or not it might be time to head for home. He'd have no trouble fixing it so that he'd make the mail-run to Wellhead. Then he could become 'sick' in Wellhead. And then, a little later, he might send word that he had gone home to recuperate.

He ran in place, shaking his arms, feeling a little warmer now. His breath worked hard.

In the center of the circle, Tack wrestled with the Lord but made no progress.

He had awakened in a boiling rage, filled with hot, carnal desire.

He had kicked his servant across the tent—the rascal had overslept and Tack had almost missed the dawn. Then he'd come out here to commune with Him, seeking a clear nod, a firm assurance. Did He-Up-There care as much about the Plan as Jonny Tack?

The Lord wouldn't answer. Tack labored, worked. But he didn't hear the Lord. Snakes surrounded and encoiled him—writhing doubts, desires, and uncertainties.

Listen, Lord, Hear me! Tack pleaded.

I'm surrounded by traitors. They violate your law. They disobey your servant.

He felt the prayer in his guts, a strong emotion. But his face was stiff and masked his feelings. The wind drove particles of ice against his skin where they turned into speckles of moisture.

Why did they do it? Tack wondered. Why the opposition. What had happened to the fervent commitments of a month ago?

Fear, selfish fear!

He recalled an elder Gulfrat's statement of the night before: "The venture is doomed to failure. Your own man betrayed you. It's a bad sign. The Lord won't smite all those millions. There must be righteous among them. Give up the plan, Jonny. Secure the parts, but give up the madness."

Then the man came forward and spread out a map of Gulfrat's territories.

"Look at this, Jonny. Those are my people. What if Union betrays us? What if the parts don't work? A few missiles from Husten will destroy us."

Tack hit the table with a fist. "Why? Why have you changed your mind? You swore."

"We swore, but we've thought about it since."

Lord, he prayed, give me a sign. Give me a sign so I can rally these people. Show me your grace.

In the tower Fannin stared out over the landscape. Yellow outcroppings of rock broke up the monotony of silvery mutagrass moving under windlash like the sea.

He wondered what the pyramids might have looked like in ancient days.

He imagined them silvery, reflecting sunlight. And a constant traffic of tank trucks would have moved down below on the ancient highway carrying toxic wastes for perpetual deposition in these structures now covered with dirt and overgrown with vegetation.

The ancients were gone, but the wastes were still here—drums of it, sacks of it, pools of hazard—liquids, solids, and hot stuff that would still be there when man had gone from the face of the earth.

Plutonium has a half-life of twenty-four thousand years, he mused.

For a moment he tried to calculate how much plutonium would be left a hundred thousand years from now if you started with a ton of the stuff at the time of LNW-XIII. He gave up the effort as too tedious.

Instead he mused about the enormities radiation had created. This area still produced mutants that lived a few generations before nature wiped them off the boards.

Near Santlu crater he'd once seen a horse so tiny you could hold it in

your hand. Around Liberal in Mo-kan people said lived a creature with a heart so big it squirted poisoned blood to catch its prey. Then there was a curious bird with one enormous right wing and an insignificant left that flap-flew backwards. Near here he'd seen a feathered turtle that—

Motion from the direction of the camp now drew his eye.

Straw-hatted Symbimuts marched toward helicopters.

Another group deserting the strict constructionist paradise?

He watched the Symbies through his binoculars. Several fems walked in the group, out in the open, unabashed.

Fannin chuckled. He had guessed all along that Jonny's rules weren't being observed. Some tribes had women in the camp. And those that didn't jugged fem-folk from mutie settlements in the rad belts. They came from all over in the night and sold themselves for salt and trinkets.

I should be so lucky, Fannin thought.

He imagined a wild fem scratching on the canvas of his tent. Well, Fannin had a ring or two ready for that eventuality. He too had sworn the Pact of Chastity, but on occasion you could close an eye. Best if you *did* close the eyes. Some of these fems were weird—eight nipples down each side of the belly, faces without noses, just little holes all covered with hair. But who gave a damn in the dark.

Mutant slaves loaded the Symby copters. Then Fannin saw blades begin to turn. Three big birds rose with a dull, whirring sound and

curved away, away to Socal.

Tack also heard the far-away whirring chop of copters and almost opened his eyes. But he resisted the urge.

Is that your answer, Lord? he asked with an undertow of bitterness. Is that your message? More defections?

Five tribes had already deserted. If more left, who would mass around the structures to wipe out the remnants of structure life?

It seemed to him almost as if fate conspired to ruin the glorious plan—the plan his father had formulated, for whose achievement he'd sacrificed the family wealth. Herd after herd of Tack cattle had been sold to support those scientists in Kaysee.

For a second Tack yielded to an angry thought.

He would succeed without the other tribes. He'd march with his own army down the coasts of America, liquidating the remnants. And he'd subjugate the tribes as well, one by one.

The sound of copters faded away.

Who was it this time? Planet-friends? Peacefreak? Gulfrats? The word about Bono's defection had leaked out. He'd find the man who'd done the leaking and lock the bastard in this pyramid to eat of arsenate of lead and drink the milk of chlorinated hydrocarbons.

Tack stopped himself. This was no way to meditate. He'd have to calm his mind.

In the tower Fannin hopped around once more beating his arms against his chest. Wind whistled in through the cracks of the tower. After a while he stopped and went

back to the window. He saw that Tack had risen, stood now where he'd sat. His blond horsetail of hair hung down dark yellow, wet with rain. Fannin gathered his binoculars and raced down the stairs. But when he got down, Tack still hadn't moved.

Tack tried hard not to see the delegates. He hated them for the doubts they held. How could they doubt him? How could they reject the prophecies!

He reached for the Crestmore bible on his belt. He'd try one more time. He *had* to get guidance, one way or another. In meditation he had seen only conspiracies—and *her*, Regina's rutty voluptuousness had confused him with moist memories.

He'd open the bible at random and see what the book would say.

From the shelter of the door, Fannin saw the gesture. Tack's fingers fanned the pages of the book, which was a bad sign. The delegates would see Jonny's indecision, his telltale reliance on the supernatural. Fannin wondered how soon he might head out for Wellhead and get sick.

Tack waited for the spirit's prompting as his fingers moved. He felt the impulse and let the book fall open. He lifted it and read the verse where his thumb had come to rest.

"Mercy is sweeter in the mouth than justice."

Tack slammed the book shut and let it drop down on its silver chain. *Goddamned*, he thought. *God-damned!* The line gave no guidance. Of late he'd gotten such verses by the score. He wanted to open the book to one of the many instructive

stories—the Chicago Seven, say, or the Tale of Manson. Instead he got chapters loosely transferred from the Bibliobooks.

He glanced up at the grey sky. *Lord, you're no help! I'll have to act without you.*

His errors would be the Lord's not his. He had asked and he couldn't be blamed. Damnation. A man worked, busted his ass—but He didn't care. Sometimes Tack was sure that He wasn't there at all. Everything up above and down below was nothing more than sky and rock and mutagrass. Tack wished it were so. But then, again, things sometimes happened that he couldn't explain.

Disappointed, he started for the camp. Freckled Fannin came toward him with a grin, but he scowled at his aide, and the man fell back. Behind Fannin came the delegates.

They went down the steep slope of the pyramid in the involuntary quickstep forced by the gradient and then in long strides across the wet mutagrass toward flags flapping moisture laden in the wind in the distance.

Tack was halfway to the camp when a figure slipped out between tents and ran toward them. The man held something yellow in his hand.

Tack grew alert, almost joyous. Action! Something to read, something to do. Perhaps guidance came from another source. The Lord's ways were strange.

The man reached him, stopped, and gasped once or twice, out of breath. He handed Tack three sections of cable, said: "A message from Dart, Chief. Thought you'd want to see this right away."

Tack read the text of the letter Dart had just sent from Union. His heavy mood gave way to buoyant elation as he read. He glanced up at the sky briefly—to show the Lord that he understood. Here was the answer. They had succeeded without even trying. Union stood ready to deliver the parts for an almost meaningless concession. Drop the hostage demand. Tack felt like laughing. The strategy had worked despite Regina's substitution for Sidney.

The second part of the report dealt with Bono's escape. Tack's face clouded, but this mishap couldn't obscure his gladness. Bono would be caught—or he'd die in the crash of Ricardo.

Tack turned to the waiting runner. "Is he standing by?"

"Yes, sir."

Tack came about and faced the delegates. His eyes swept the soaked figures, their hair matted down, leather tunics unevenly blackened by rain. Behind them towered the pyramid. Tack's lip curled.

"Gentlemen, the doubts that you all harbor about my competence are groundless. We've had a breakthrough. The sil-parts might be in our hands within the week."

He turned to Fannin and beckoned him near. Walking forward, he said: "Fannin, I'll move my immediate headquarters north this morning. I want to be near when Ricardo falls. Make all the arrangements."

"Yes, sir!" Fannin cried. For the moment he'd postpone getting sick. It looked as if Tack might win after all.

TO BE CONTINUED

A STEP FARTHER OUT

JERRY POURNELLE, Ph.D.

THE NEW FACES OF BIG SCIENCE

WHEN A MAN TALKS to yogurt, that's interesting—but when yogurt talks to a man, that's *news*; and when hundreds of scientists listen to him tell about it, that's significant.

This week I heard a man tell how yogurt communicates with him. I also heard about the discovery of the first radio pulsar (PSR 1913+16) in a binary system, and how it can be used as a "laboratory" for testing theories of relativity; sober-minded analyses of the effects of modifying world climates, and methods we might use to do it; some grim figures on world food production during the oil crisis; a long panel on the future of the automobile; a hot argument between Joe Coates, Congress's expert on the effects of technology, and representatives of the auto industry; and a panel of careful experts discuss parapsychology and ESP as established scientific disciplines.

In other words, I've just come from the annual meeting of the

American Association for the Advancement of Science.

There weren't many headline-grabbing papers this year. The theme was "Science and the Quality of Life", and most of the papers were stolidly presented, with reams of data and often no clearcut conclusions. It made for less excitement than did last year's meeting (see "This Generation of Wonder", July, '74 *Galaxy*) but there was more food for thought.

It's not really possible to summarize any conference as big as a AAAS meeting, but three impressions stand out. First, Big Science *cares*. Whether or not it was ever true that the US Scientific Establishment was a monolithic bloc interested only in charging ahead with indiscriminate applications of technology, it's not true now.

There were far more papers on the effects of various technologies than on the technologies themselves. Although there was plenty

of enthusiasm, there was as much concern with what technology can do to us as for us.

Secondly, Big Science is more open-minded, possibly as a result of the Velikovsky Affair. There was no fanfare and no special announcement, but Cleve Backster got his hearing.

Backster is best known as the ex-CIA polygraph expert who claims that plants have ESP and can react not only to threats, but also to termination of other forms of life. Backster reported as early as 1968 that he had connected electroencephalograph (EEG) or "brain-wave" recording equipment to various plants. When he thought of burning one of the wired-up plants, it reacted to his very thought by giving out agitated electrical responses.

Backster also reported that the plant reacted when brine shrimp were killed in boiling water.

Few biophysicists took the claims seriously. Plants have no central nervous system, and it's hard to see where the "brainwaves" come from. It's also hard to see what survival value such responses would have. However, Backster was not laughed off as a crackpot.

He was invited to participate in a panel organized by Yale biologist Dr. Arthur Galston. Other scientists attempted to replicate Backster's work.

Professor Edward Gasteiger of Cornell reported the results of

elaborate brine-shrimp-killing experiments. He also had conducted a "plant-killer detection" experiment in which some students went into the laboratory and burned plants alive, while others entered the lab and merely stood there thinking nice thoughts.

Various plants in the lab were wired up to EEG apparatus. Observers in another room attempted to identify the "plant killers" by watching the EEG responses of plants which "witnessed" the life termination-by-fire.

Other AAAS scientists reported duplications of Backster's published experiments. As you've probably guessed, no one got any results worth reporting. It wasn't possible to determine which students were "plant killers" and the responses of plants to brine shrimp terminations didn't differ from chance.

The important point was not that they failed to get the results—it seems unlikely to most people that plants really have ESP—but that a serious effort was made to investigate claims that went counter to all established theories of plant biology.

Backster had new and previously unpublished results to report this year: he has attached his EEG systems to eggs, yogurt, and sperm, and believes *they* may all have ESP. One glass of yogurt, for instance, will react when fresh milk is added to a glass of "brother" yogurt in another room. Sperm give off elec-

trical brainwaves when the donor (also in another room) sniffs an ampule of amyl nitrate. And so forth.

The members of science press corps could hardly contain themselves, but 400 engineers and biologists listened to reports of the world's first yogurt-to-yogurt intercommunications with absolutely straight faces. The contrast to the treatment received by Velikovsky couldn't have been greater.

THERE WAS ALSO an entire session on parapsychology and psi phenomena, and no one was laughing; in fact, it was so prosaic as to be rather dull. The general attitude was that ESP no longer needed demonstrating, and the question was how best it might be studied.

For example: telepathic communication is notoriously unreliable. At best it operates consistently only a little above the level of chance. Thus there was a paper on ESP and information theory—techniques whereby an unreliable channel can be made to send reliable data through repetition. Accuracies approach 100% if the message is short enough and sufficient time is spent sending it.

Another paper studied interaction of alpha wave training and ESP, and concluded that learning alpha wave control has no significant effect on raising ESP performance—but, contrariwise, there's some evidence that during ESP successes, alpha waves are produced.

A St. John's professor dealt with ethical problems of teaching or training psi abilities, while another Ph.D. from Santa Barbara described a number of methods by which psi talents could be "simulated"—in other words, faked.

Aha, one thinks. The typical attitude of the scientist debunker; but it wasn't that at all. There's so much to learn about the real thing that there's no time to waste on frauds.

There are still scientists like Dr. John R. Pierce, of course. (Pierce is well known in communications theory, and also, as JJ Coupling, is a science fiction writer of some note.) He told me recently that not only doesn't he believe in ESP, but he won't believe it even if they prove it to him! There are also a lot more who simply accept psi as a field to be studied. Whatever the attitude, no one seems to want to suppress either research in ESP or publication of the results.

(Before I leave this topic I feel a warning is needed. Although it's generally accepted among many scientists that ESP and psi are genuine phenomena and deserve extensive study, there are a lot of fraudulent "schools" which sell "training" to the gullible. Most claim results that they simply can't obtain.)

MY THIRD IMPRESSION was that scientists remain technological op-

timists: most believe we *can* solve all our problems. They're not so hopeful that we *will*.

There was a certain amount of gloom in the corridors. A few years ago science had public support. People were pretty sure that whatever holes we got into, science could get us out. The public attitude has changed, and it shows on scientists' faces.

There's a general feeling that the public lost confidence at a particularly unfortunate time. There are just too many crises looming on the horizon.

For example: last year, for the first time in generations, there was an increase in the proportion of take-home pay spent for food in the United States. World stocks of grain are at historic low points. There are no reserves.

Population control is all very well for the long run, but in the next few years we have only two choices: increased agricultural production, or watch famines.

Famine is a "natural" phenomenon, though one we of the West aren't accustomed to because we've not only opened new lands, but linked the whole of the West with a transport system. Drought in one region can be compensated for by imports of food from another. However, except for the past 100 years or so, everyone in the West knew what "lean years" were.

We may find out again if we don't do something.

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According to Dr. Sylvan Wittwer of the National Academy of Sciences, we'd better do it fast. The oil shortage has reduced fertilizer stocks to bare minimums, and without energy you can't make more fertilizer.

Yet the sun sends down plenty of energy. Legumes regularly fix nitrogen. At the moment plants only convert about 1% of solar energy to forms we can use, but Wittwer thinks that can be increased by an order of magnitude. The effect would be dramatic.

If fertilizers could be *grown*, the effect would be the same as construction of massive solar energy converters; why take solar energy, turn it into electricity, and use the electricity to make nitrates if with a little more research we can induce plants to do it directly? The major beneficiaries would be energy-poor countries, but we'd profit greatly too.

Dr. Wittwer wants a Manhattan Project on food production, with, as a first step, \$100 million for a program of research into biological solar energy conversion. After all, it's our most renewable and non-polluting resource.

The basic research has been done. It's now largely a matter of applying some engineering biology to get *huge* payoffs—and yet it's precisely now that the public loss of confidence in science has killed research into primary methods of food production.

That's not the only high-payoff area neglected. For all the money spent on environment, we know precious little about the real effects of cities on the atmosphere.

For example, it's known that areas downwind of nearly every major city in the US receive up to 20% more summer rain than they would if the cities weren't there. Is there a corresponding drought somewhere else? How many aerosols get to the upper atmosphere, and what effects do they have on the ozone layer?

No one really knows. Those who make spectacular claims—as, for example, that the ozone layer is being destroyed by aerosols, or by smog, or by the flatulence of cows—get national attention. When challenged they can say “prove we're wrong,” and get more headlines. The careful scientists who admit we don't know get neither headlines nor a budget.

Dr. Volker Mohnen of SUNY Albany told me that a few million dollars invested in learning precisely how sulfur dioxide gets from the stacks to where it falls as sulfuric acid rain would save hundreds of millions annually. The study is halted, though: no funds.

And so forth. Some scientific disciplines are fat, but many with payoffs clearly in the public interest are ignored.

Years ago research scientists had a saying: “As long as you're up, get me a grant.” The silliest pro-

jects were regularly funded. Money was shovelled out faster than it could be spent.

A lot was wasted. The Department of Agriculture was particularly guilty, with millions spent on such exciting studies as "Job Attitudes of Supermarket Employees," a thrilling expose on how clerks felt about their bosses (some liked them, some didn't), and imbecilic surveys on whether or not teen-age girls took their mothers with them to buy clothes. (Some did, some didn't, some didn't care.)

This nonsense was rightfully parodied by one and all. C. Northcote Parkinson gained a national reputation by satirizing such studies.

Those days are gone, and God forbid they ever return; but can we afford to drop nearly all our research?

THUS THE CURIOUS MIXTURE of optimism and gloom. We have the technology to solve the energy crisis, but we're a year closer to the crunch, and in no way a year further along. The energy panels presented the same data this year as last.

Forty percent of our power comes from natural gas, and within three to five years the natural gas supply will drop enormously. We've got to begin the first demonstration plant on coal gassification, although we know how to build it. The technology is expensive; but what may not having it cost?

The electrical power shortage is going to get progressively worse, and everyone projects that by 1985 we'll be in real trouble. If we're to use nuclear power to solve that problem, the plants have to be started *now*.

Instead, the nuclear industry is liquidating itself. It has become obvious that fission power plants can't be started—it's just too easy for lawyers concerned about environment to throw a brick into the billion dollar works.

There was, in other words, a sense of crisis in the halls of the AAAS meeting hotel. We seem to know what to do and how to do it—but nothing seems to be getting done.

Big Science treated Velikovsky shamefully 20 years ago; that's been corrected, and new ideas get a hearing. Science and academia wasted a great deal of money in the past; that can be prevented in future.

We stand near the threshold of what could be the most exciting period of history. If you look fifty years ahead you can see ways around every problem we face: plenty of energy, pollution abated, enough food for the world. You can find all the optimism you want when you look fifty years ahead.

It's those who look twenty years ahead who wear long faces.

I hate to end with a downer. Next month we'll assume we get past the next fifty years, and look at family life in the asteroids. . . ★



GREG BEAR

THE VENGING

*One species' Heaven
may be another's
idea of Hell!*

I
“WALTZ IF you will, woman,” Kamon thought bitterly, “your husband will be dead soon and all your lands and holdings scattered to state officials like seeds to parrots.” He watched from the parapet as the dancers executed their moves to strains of Ravel’s “La Valse.” Three small moons hung above like etched glass streetlamps, one at the horizon over labyrinths of hedgerows, another to the west topping the Combine Minara, and a third at zenith, the largest. Their light made the polished dance-floor tiles gleam beneath the swirling gowns and white breeches.

“Enjoying the view, I hope,” an old woman said, stopping quietly behind him. She was dressed in a plain black robe—an Abstainer by dress and manner. Kamon turned his head to acknowledge her presence, then turned back.

“It is a bit limited,” he said, his voice clipped with the accents of non-human teachers.

“You can see the whole floor from here,” the woman said, knowing very well what he meant.

“The *subject* is limited,” he clarified. “They are quite mindless in their pleasures, don’t you think?”

“When I was young I enjoyed such pleasures, and I wasn’t exactly mindless. Though I was foolish. To be sure, I was foolish.”

“I find it difficult to believe the Baroness was ever foolish.”

“You know how foolish the young are, Kamon. They have no sense of impending death.”

“On the contrary, Baroness. I have been aware of death since I was a few brief months old. Or do you forget that no juvenates exist for my species?” He turned one fluid blue-green eye on her and kept the other on the dance floor.

“Your karma, perhaps,” Baroness Anna Sigrid Nestor said with a shrug. “Are you keeping an eye on Edith Fairchild, or just dreaming of assassinations and seizures?”

“That you are privy to my affairs does not give you the right to be glib, Baroness,” he said sharply. “Your position is not so strong that you can feel completely secure against me.”

“You’re a wretch, Kamon.” She walked past him and leaned on the parapet, turning away from his pale leather-tan face and three-lipped mouth, which articulated so many languages so well. Teeth like a lamprey, she reminded herself. Mind to match, vicious by design.

I am not a species bigot, but dear Deos, she thought, I despise his class of Aighors. “I’m privy, and I’m compelled to silence because of our pact, but I grow tired of the support of your kind,” she said. “So I’ve come to announce a rescension.”

“That will not be advantageous—”

“Quiet until I’ve finished. I count the Honorable Disjohn Fair-

child as a fine friend and an excellent human. I'm disgusted with myself that I'd even think of letting self-interest negate my duty toward such a man. His kind is rare, Kamon, and you're proof by example."

Kamon bowed elegantly, as ugly a creature as she could humanly conceive. "Then voice your rescension, Baroness. I will pass the message along to the Administers. I am sure they would like to prepare the next auspices on the basis of such information."

Administers prepared auspices—the seeking of signs in the patterns of nature—among dozens of species associated with the mercantile consolidations. But none were like the auspices of the Aighor branch of Hafkan Bestmerit. Anna had attended a ceremony once. It had sickened her. Still, she had a strong inbred abhorrence of judging another species by human standards. If they wished to sacrifice their young and seek signs in their bowels, so be it. Human justice had no meaning for the Aighors, nor did the justice of their allies, the Crocerians.

"I deny the support of Hafkan Bestmerit, and the oath of noninterference thereby accrued. I will do everything in my power to prevent you and your associates from stripping Fairchild of his life and holdings. And I'll defend him with all the power at my disposal. That's no small force, Kamon."

"The Baroness is influential," the Aighor said. He bowed again and swung the lower, snake-like third of his body into a coil around his thorax. "But not omnipotent—her weapons are registered. And she does have to answer to the Combine as all of us do. A most interesting challenge, however."

Anna was fuming at the reminder of her limitations. "I'll warn you further. Strike against me and you strike against my ally, United Stars. Hafkan Bestmerit, I understand, is extremely interested in establishing stronger relations with USC. You may alienate your own allies. You're sitting above a dark, dark singularity, Kamon. Beware of losing momentum and falling in."

She turned and walked away, leaving the Aighor to watch the dance, his expression unchanged.

II

LADY EDITH FAIRCHILD, after the final dance, made her way from the floor into the small gilded elevator, then up the marble stairs (edged with malachite) to her third floor bedroom. She looked around with her head moving jerk, jerk, nervous as a bird. Her hands were trembling. Her shoulders slumped and tiny rivulets glistened on her cheeks, spotting the shiny saffron robe. She reached down, pulled up the hem of her gown, and sat on the padded bar edging the sleep field as she undid her shoes. One finger reached for the sleep-field button. The bed

hummed into action and she fell back. Her hair fanned out.

Disjohn Fairchild stood over her, his entrance as quiet as the activation of the sleepfield. "What's wrong?" he asked.

"I saw the Aighor in the hallway," she said, her voice shaking with anger. "They could at least have the decency to hide themselves while they scheme!"

"They're too honest and aboveboard for that," Disjohn said, sitting beside her. He looked at the ceramic wall mural, then at his shelves of old books—all as familiar to him as his own hands. He had no official connections with the Combine, but diplomacy worked in such devious ways that he'd used this office and billet on the Combine world for twenty years. It was more than home, it was the repository of his life's work. Christ, he thought, even my world can't save me.

But what was there to be immediately afraid of? The Aighors wouldn't do anything drastic to get to him. It would come some unspecified time when the opportunity presented itself, probably when he was called back to Shireport to deliver his personal lectures. Then they would declare the cultural insult and vendetta, commandeer his ship, and be done with him cleanly. There wasn't a thing Dallat or United Stars could do about it. There was complex diplomacy involved, and he wasn't so important a figure

they'd risk the anger of the Combine.

Of course, if he could reach Shireport safely, there were Crocerians who might consent to go with him from there—paid, say, in trade preference for two years. The Aighors wouldn't touch his ship from Shireport to Ansinger with their allies aboard. When he delivered his lectures at Ansinger, he could apply for a United Stars Zone immunity. Ansinger was the largest USC stellar province, ten systems. He could transfer his funds, or what part of them he could mobilize and take with him—not much, he knew—and his wife, convert his lands and holdings to transferrable commodities—trade them for data and software, perhaps—and set himself up on a terraformed world. Buy a continent on Kresham Elak. Start a school there. "Get the HELL AWAY!" he shouted. His wife flinched, shock delaying a question.

"Sorry," he said. "Thinking about alternatives." But the alternatives meant the demolition of his life as he knew it, and of his wife's. Would she stand for such a change?

"Are they so vindictive that they'd kill you for doing such a simple thing? Then, why don't they destroy the station and kill its personnel as well?" she asked.

He shook his head. "It's not that simple." Their reason had to be that he had pioneered and pushed

and promoted in every possible way the construction of the Precipice 5 Station, the station studied black-hole radio emissions coming from the Pafloshwa Rift. He could think of no other.

The Aighors called such emissions Thrina, and had built up extensive obeisance-rituals around them. Thus in some way his personal action had violated a religious or cultural taboo—who could tell what human words applied, if any?—and he was accountable.

"They can't destroy the station," he said. "It's under United Stars jurisdiction now, thanks to Anna Nestor. If they attack USC personnel, then the Combine has to intervene. That would result in severe restrictions—which the Aighors would have to abide by if they wished to survive economically. It's pretty tight from that angle.

But I'm under Dallat protection, and Dallat hasn't yet signed a full agreement with the Combine. It's still a renegade consolidation. Until an agreement is signed, the Aighors can resort to old pre-human law and call a cultural vendetta." With their early half-grasp of human tongues, they had called it a "ven-ging." The name had stuck in legal terminology.

"It's so damned complicated," Edith sighed, staring at the ceiling.

"Not really, once you've been around it for a while."

"You almost make it sound just."

"It kept interspecies conflict to a minimum for millennia before we arrived on the scene," Disjohn said quietly. "Roger Bacon was messing around with crude lenses when the original pact was established."

Edith stood up from the sleepfield and unhitched her gown in the back, letting the folds pile themselves automatically into a tight, square pile. At forty she was still lovely, he thought—and she had not yet begun to rely on juvenates.

As if she were reading his mind, she said, "They don't have any way of staying young."

"What?"

"For all we know, they all die at about sixty years of age; they don't have any way to prevent it. Maybe that's why they cling to old religions and rituals. Personal survival after death, or whatever their equivalent is."

"You mean that maybe they believe that what I've done blocks their chances of surviving after death?"

"They consign their dead to black holes, don't they?"

"Yes, but *before* they die. Pilgrimage ships of the old and diseased."

"Maybe studying the thing takes it out of religion and puts it into science. Science still says nobody survives after death. Maybe the conscious mind will not accept what the subconscious—"

"That's archaic," he said. "And, besides, they aren't even human."

She shrugged and lay back on the bed. He crawled in beside her and the room lights dimmed and died.

What if his actions had condemned some of the Aighors to eternal darkness? He shuddered and closed his eyes tight, trying not to think, not to empathize.

Sleep, when it came, was controlled, pleasant.

III

KAMON GAZED briefly at the message spheres on the floor before him, then crossed his eyes in irritation. This gave him a double view of the opposite sides of the octagonal room—ceremonial *gepter* knives hung on one wall, over the receiver-altar which periodically sonically reproduced the radio noise of the Thrina; wooden tub next to the opposite wall, filled with mineral water super-saturated with sulfur and iodine salts.

He picked up a sphere and put it in the depression in his tape-pad, then instructed the little machine to record all the successive layers of information in linear display. The method tasted too much of human thought-patterns for his liking, but it had been adopted by Hafkan Bestmerit as a common method of using intercultural information. It was disgusting, he thought, that a single cultural method of writing—left to right, top to bottom—should dominate information techniques across half the galaxy.

But such was the dominance pattern of the young humans.

The pad's read-out began immediately. The first message was from the Council at Frain, the Aighor birth-world. The council had examined the theological and ethical problem of Fairchild and his sacrilege, and supported the conclusion of the district priests. Not even Fairchild's alien background and influence could exempt him from the Venging.

He had condemned millions of Aighors to oblivion after death. He had profaned the major region of Thrina pilgrimage by treating it as an area for rational investigation, and not of deep reverence.

The death-ships could no longer drop the assembled dying pilgrims below the event horizons of their chosen black holes. They would no longer experience the redemption of Zero, or bathe themselves in the source of the Thrina song. Kamon seethed with the Venging. He was one of those potential pilgrims.

He had wanted so much to live forever.

IV

"I THINK FAIRCHILD has gotten himself into more than he can handle, but I see no way USC can interfere. We're conducting high-level talks with Hafkan Bestmerit, very delicate. If I were to start an incident I would forego my employment quick as that." Karl Kondrashev snapped his fingers in de-

monstration and stared at Anna Sigrid-Nestor with large, woeful eyes. His jowly face was pale in the white light of his reading lamp.

"So I can expect no support from USC," Anna said, anger beginning to color her face.

"At the moment—no."

"Then what would you suggest?"

"For Fairchild, finding his way to some immunity zone like An-singer. He can seek USC support, but only by renouncing his associations with Dallat. As I understand it, that would mean giving up most of his wealth."

"Disjohn isn't so desirous of his wealth that he'd rather die than lose it, but I'm asking what *I* can do to help him."

"Keep your nose out of it. Give him the advice I've given you. But stay clear . . . unless you want USC to renounce its connections with you."

"Kiril, I've known you for seventy years now. We're about as friendly as two old wolves can be. You bailed me out of my doldrums after the death of my first husband. More even, we're both Abstainers and dedicated to our Creed that immortality is no desirable thing. Yet now you tell me you won't do anything to help a man who has done more good for colonists and the consolidations than anyone, Dallat associations or no. You're incredibly two-faced, I think."

"Our 'Friendliness' aside, my

dear, I don't like your tactics much and I never have; you're too forceful when you should step softly. Now is one of those times when a good many fragile and important things hang in the balance. Do you have any idea—you must have, you're no idiot—how difficult it is for species to coexist when all they have in common is the fact they are alive? It's like standing on tiptoes all the time, for all concerned. Involve yourself in this and you might start a collapse you can not now imagine."

She sat in front of his desk, hands gripping the edge as if to push it aside. Her forearms were rigid but her facial expression hadn't changed from the mild, grandmotherly smile she'd put on when she came in. "Besides," he continued in an undertone, "your weapons are registered whenever fired, in defense or otherwise, and the situation is recorded. We'll have you on the carpet if you do anything that can even be *considered* other than strictly defensive."

"I've never been able to figure out you bureaucrats," Anna said. "But you're right about one thing." She sighed, stood up to leave. "It hasn't been much of a friendship."

She rode a transit tube beneath the modular city, as any pedestrian might have—seemingly nothing more than just another old woman. In her bag were several pictures of young men, one of whom attracted her very much. She glanced at them

several times as she rode, trying to lose herself in reverie and allow her limbic mind to feel its way through to an action. Gut-level thought had carried her through crises before.

She isolated the one photograph and tapped it against her cheek as she left the tube. She was at an underground terminal beneath the Myriadne starport, largest on Tau Ceti II. Shuttles landed and departed by dozens every hour, bronze and silver bullets homing for their mother starships. One such bullet, small and utilitarian, waited for her as she rode a wheeled maneuvering tug out to it. In ten minutes she was off-planet.

Disjohn Fairchild was an intelligent man. He would already be implementing some of the suggestions Karl had made to her. They were the only outs he had for the moment, with or without her help. She calmly analyzed her own reaction to the suggestions, watching sun, planets and stars form a glittering bow around her ship. Then she smiled grimly and went to sleep as the stars winked out.

When she came awake three hours later, dark still surrounded her. It grew muddied and started to take on form. There was a queasy moment, a tiny shiver, and the outer universe returned. Occasional wisps of color dotted and vanished streamer-like along the forty-five degree rotated starbow.

She began to wonder what Kamon had meant by the reminder

that his kind were mortal without choice. Did it have something to do with Disjohn? She went to the ship's library to do research. On her way, she dropped the photograph into an unlabelled chute and told it, "Hire him." They would pick him up at Shireport.

V
EDITH GREW TIRED of the viewscreen's translation of what was happening outside the ship. She frowned and closed her eyes, trying to wipe her mind clear for a moment. The books in front of her ghosted and darkened, and she swam in a small red sea of interior designs.

After a moment, she no longer thought in words, and mental imagery came to her clearly.

Three large, very fast starships all moved across hyperspacial geodesics toward a common goal. They left tracks—she could see them in an allegorical fashion—in amorphous higher geometries. They were aware of each other's presence and direction. By deduction they would be aware of each other's purpose. Each carried an individual bent on accomplishing one task.

Edith wondered what Anna Sigrid-Nestor's purpose was, beyond friendship. They'd communicated briefly a few hours before, and Disjohn had told her to leave well enough alone. But Edith was sure she wouldn't.

Her concentration broken, she

opened her eyes and again scanned the books.

One ship carried a being built very differently from the masters of the other two ships. The being wasn't classifiable in terms of terrestrial biology, having partial aspects of many Earth phyla, as well as others totally alien to Sol III. He was called "he" by default—a human cultural tendency to view the convex sexual form as male. But Kamon was neither male nor female in the reproductive process of his kind. His children (by human standards) were not his children.

His neurological make-up also varied wildly from the human, the arrangement of his nervous system being central rather than dorsal, while his brains were positioned in three main areas around his esophagus. One of his brains was an evolutionary vestige, handling autonomic and emotive functions. It was very powerful in influence despite its size, and was connected with the two other portions by fibers substantially larger than any human nervous connection—networks of medullae, each marvelously complex.

He could contemplate at least four different things at once while involved in routine action. Even while driven by what humans would consider a maniacal obsession an Aighgor could think as rationally as the calmest of humans. A dangerous enemy, hugely motivated and cunningly reinforced.

In this match, Kamon indeed had the upper hand. He would know everything they had planned—with benefit of manic certainty and calm intellection—and he'd act without hesitation—

"No!" Edith said. Kamon was not supernatural. He would have his faults, too. They could elude him. They could survive him.

Perhaps Sigrid-Nestor could help by distracting him. There was at least hope, and perhaps even a good chance. So why was she feeling so dangerously dark inside, and cold?

She closed her books and stood up slowly from the table, then went to join her husband on the bridge.

"A ship riding proto-geometry has three options in case of attack," Graetikin, the Captain, was telling Fairchild as she entered. He nodded at her and continued. "It can drop into half-phase, that is, fluctuate between two geometries—" his finger lightly sketched an equation on the tapas pad— "or drop into status geometry, our normal continuum. Or it can dispatch part of its mass and create pseudo-ships like squid's ink. This happens to some extent during any transfer of geometries, to satisfy the Dirac corollaries, but the mass loss is on the order of fifty or sixty protons, randomly scattered."

"What about protection from shields?"

"Shields only operate in status geometry, Disjohn. You should remember that. They're electromagnet-

ic and that implies charge-holes in hyperspatial manifolds."

"It would have been easier if we'd had a few Crocerians," Fairchild said wistfully. But they were a pragmatic species. When the ship had put in at Shireport, all the Crocerians he'd asked had politely refused, not wishing to gamble, or, if gambling, betting on the Aighor.

"I'd certainly never fight Aighors if I could avoid it," Graetikin said. "I would avoid it by avoiding having them challenge me."

"We're still taking that risk, though."

"It's up to you to estimate that risk. Once committed to a proto-geometry vector we can't back down."

"How far ahead of us is he?"

"About four light-hours and matching course and velocity."

"How much of a jump can we get if we take one of these proto-geometries?"

"He'll receive signs of our jump about a tenth of a second status time after we make it. That gives us a good hour or two at the other end of the pierce."

"They might take that as an affront," Disjohn said, looking at Edith.

"Why, for God's sake?" Graetikin said. "We'd have to jump into some manifold or another anyway."

"But proto-geometry jumps are a waste of energy, unless one wants to gain a certain advantage." Fair-

child pushed away from the anchored chair and drifted across the cabin. "And if I give any clue that I think they're after me, they'll interpret it as a cultural insult. Kamon is sharper than I care to think about. He won't miss a trick."

Graetikin shrugged and doodled an equation among the others on the tapas pad. He had been working on it in his head for months, unaware he was so close to a solution. His eyes widened. He had just described what the Thrina were in terms of physics and mathematics, and how they operated. He branched off with another equation, and saw that in any geometry outside of status—any universe beyond his own continuum—the Thrina would be ubiquitous. He could describe it in mathematics, but he couldn't put it into words. That, he idly thought, did qualify them for godhood somewhat.

He would transmit it to Precipice 5 when he had a chance, and see what they made of it. But for the moment, it wasn't relevant. He folded the tapas pad and put it into his shirt pocket.

"We're four light-days out from Shireport, and sixty parsecs from the Ansinger systems. We made it to Shireport without harassment, and that makes me suspicious. So far we've only been tailed. I expected them to act sooner." Graetikin turned around to look at Fairchild. "They're usually more punctual."

VI

THE AIGHOR captain lay against the wall with his throat and triplet brain smashed flat. He managed a final automatic gasp of query before Kamon pressed the slammer button again and laid his head out. The thorax and tail twitched and the arms writhed slowly, then all motion stopped. Kamon's mate-of-ship huddled against the back of the cabin and croaked tightly, regularly, her face blood-red with fear. Kamon put the slammer down and sent his message to the Council at Frain.

"The diplomatic team has caused damage to the Venging," he said. The hazy, distorted image of the Auspiseer chided him for his vehemence.

"They have called for the meeting at Precipice 5 partly for your advantage," the Auspiseer said. "The human Fairchild's ship has been notified en route to Ansinger, and he cannot refuse."

"But I have already had several chances to attack—"

"The captain's reluctance to destroy the Fairchild ship was part of his training. You should have been gentler with him."

"He is of the governing breed. They've become almost human in the past centuries."

"The Council allowed the meeting at Precipice 5 to be called for a number of reasons. For one, it makes our relations with the humans easier temporarily. And for

another, it puts you in a better position should the discussions be unsuccessful. So the Council cannot discount your premature release of Captin Liank, without benefit of pilgrimage. Your mission has now become one of self-immolation upon completion."

"The release of Fairchild will sanctify the Rift Thrina, and I will take my end there."

"So be your course of action, wise and good."

"But I have lost the Fairchild ship now because of the Captain's reluctance. It will take time to regain an advantage."

"What else has offended besides Fairchild?"

"His station."

"Kamon, you realize now that you are officially declared rogue and we are not answerable for your actions. We will broadcast suitable warnings to that effect."

"That is as I've planned. Auspiseer." He ended the communication and turned to speak to his mate. She had regained her composure and was adjusting her belts of pre-fertilized egg capsules. "We will gestate no more young," he said. "It would be useless."

VII

"SO FAR, three things have gone wrong with the predictions," the Heuritex said. "I've calculated based on all known constants and variables, all options open, but the trend is against the predicted re-

sults. I must conclude that there are large portions of information unavailable to me. The model is inadequate."

"In short, you're useless," Anna told the machine.

"That is as it may be."

"I should replace you with my gigolo."

"He's a handsome bastard, I'll say that for him."

"What if we add the assumption that Kamon is going to behave erratically, say, deranged by being denied an after-life?"

"Then the results are open again and we have more options."

"Then that's our operating hypothesis. No, wait. Use this—Kamon will behave *as if* he is deranged, by human standards. And probably will not be by his own. Never underestimate opponents, not if you wish to grow old."

"Do you wish that to be an hypothesis, or an assumption? There is a difference, you know."

"Whichever way it works out best. You know what you're doing better than I do, dearie."

"Incorporated. The resulting future-model indicates that the meeting at Precipice 5—course corrected for that destination, by the by—will be the site of an attempt at destruction. Kamon will probably be the destroyer, and the Aighors will claim insanity and rogue tactics to bow out of the responsibility."

"There. That sounds satisfying, doesn't it? I think so." She paced

in front of the panel, then ordered gravitation shut off and floated at ease. "Warn Precipice 5 to be on full alert when Disjohn arrives."

"Done."

"And contact USC, division of Martial Aids, at Shireport. Tell them there is going to be a confrontation in the Pafloshwa Rift, coordinates unknown."

"Such an action, without further information, will mark you as a rogue agent as well," the machine said, a speculative tone in its voice.

"Whatever for?"

"First, it would not be . . . kosher . . . to expect a supposedly friendly ship to attack. It would indicate a willingness to engage in battle, since you are heading toward the Rift and not backing out, and since you are going there of your own free will."

"Not exactly *my* free will. USC does not know I'm aboard this vessel, so they'll assume—will have to assume—that the captain of this ship is not playing with a full deck of cards."

"You are the captain."

"Nonsense. You are. I shall have you overhauled when we get back to Ansinger."

"That will be a good time to install the new Parakem function modules . . . Where *are* you supposedly?"

"On Tau Ceti II. I made an appointment with Jessamyn Negras for a business talk and she hates me enough to keep me waiting for at

least a month. She would refuse to believe anyone could possibly leave if they would miss out on the blessed chance to talk to her. And appropriately deluded recorders are going at all times in my apartments. I'm there, that's certain."

"I see," said the Heuritex.

VIII

KAMON REGRETTED killing the captain before learning all there was to know about ship operation. The Aighors who crewed the vessel were all skilled enough in their special tasks, as were the computers, but overall competence was, if not lacking, at least shaky. Kamon absorbed the captain's library rapidly.

He received satisfaction from knowing an Aighor pilgrimage fleet was now forming on the borders of the Rift. His kind cheered him on, and the government—diplomats and rulers alike—had not sent a ship to stop him. Nor would they.

Coldly, precisely, he used his triplet brain to predict what difficulties would arise. First would be the defensive weaponry possessed by Precipice 5—negligible, all things considered. Second, the presence of Anna Sigrid-Nestor, whom of all the humans he'd met he most admired. Third—the final battleground would not be Precipice 5. He would have to chase Fairchild across the Rift.

The station would be destroyed before the human ships arrived.

IX

FAIRCHILD'S DISCOVERED the slagged ruin of Precipice 5, issued a distress signal on the station's behalf, and headed for deep space at full power. His ship was far enough from the major gravitational effects of the small system in hours and then shamelessly relied on proto-geometry jumps to take it deep into the Rift. It shut down all activities not connected with life-support, went into half-phase, and laid ghost images of itself across a wide range of continua.

Graetikin silently cursed the Dal-lat conventions which allowed private ships to carry nothing more offensive than meteoroid deflection shields. He had spent his first thirty years in space as an apprentice commander in the Combine Astry, helping to command ships armed to their gunwales with all conceivable weapons, from rocket projectiles to stasis-shielded neutronium blocks which, warped into the center of another vessel, quickly gravitated the victim's mass into a tiny, super-dense sphere. Now he faced this nemesis armed with nothing more deadly than signal rockets and half-phase warps.

Fairchild's motives and those of the Aighor didn't concern him; Both in their own ways were right-thinking beings, concerned with good tasks.

But *he* was concerned with survival. He wanted to live to captain another ship—or at least continue

captaining this one. He didn't mind Fairchild's employ. The man was reasonably sharp and knew how to provide for the upkeep of his own ships. If he had the tact of a young bull in dealing with alien cultures, that was usually not Graetikin's province.

Between and around these concerns, he re-worked his equations describing the Thrina. There was a cool, young hypothesis on the horizons of his mind, and it tantalized him. In reworking the single expression on his notepad, he found four connections with Parakem functions which he hadn't noticed earlier. They implied that the Thrina, though ineffectual in a cause-effect relation in most geometries, had interesting properties in coincidence-controlled geometries. That meant they could influence certain aspects of status-geometry, where cause-effect and synchronicity operated in struggling balance. And that implied that it. . .

He raised his eyebrows.

X

“**T**HERE IS A GOOD possibility we can contact Fairchild if he chooses to coast free within the next thirty-five hours,” the Heuritex said.

Anna grumbled out of a light doze at the pronouncement. “What was that?”

“We can join forces with him at points I have calculated along geodesics meeting in higher geometries.”

“Translate for us mortals, please.” She straightened up in her command chair and rubbed her face with her hands.

“I think we can join with Fairchild's ship before Kamon reaches it. Here is our condition: fifth standard day of flight; all three ships are deep into the Rift. Fairchild is inert, following a least-energy geodesic in half-phase. Kamon is matching the most likely direction of that geodesic, though I'm certain he has no clear picture of the ship's present position along such a path. We follow Kamon closely. And we are constantly correcting our charts with observations of the Rift pulsars and singularities.”

“Yes, but what's this about joining with Fairchild?”

“His vessel alone doesn't have sufficient ‘influence’ to propel itself away from Kamon. He has little or no chance of escape in the long run. But with our two ships linked, we can create a broader effect-beam in proto-geometry—”

“Is this more than mere theory?”

“I think so, madame. And I can do more than that; I can contact Disjohn Fairchild's ship in a code only it can understand, and arrange for the rendezvous without the Aighor knowing.”

“You're a maker of wonders, and you draw my curiosity like a magnet . . . into areas I'm sure will baffle me. But explain the code.”

“It would mix a standard com-

bine code with keys and message vectors linked to Fairchild's position and frequency of interspatial . . . excuse me, I grow technical. Simply, certain of those particular characteristics of Fairchild's ship along its world line would enable it to quickly decode such a standardized message. Since only one ship occupies its peculiar position, only it can have any chance of decoding."

"I'll think on it," she said. Why did he hesitate? she asked herself. Because now, faced with the possibility of doing what she had started out to do—to save Disjohn Fairchild at any cost—miserable, cold sense started to creep in. She needed to think about it, long and hard. There were too many considerations to weigh for a hasty decision.

She made her way to the ship's observation chamber. Far out on the needle-like boom which extended from the crew-ball, an isolated multi-sense chamber seemed to hang in dark space. But its walls were transparent only by illusion. Millions of luminous cells provided adjustable images of anything within range of the ship's sensors, down to the finest detail a human eye could perceive. Images could be magnified, starbows undistorted into normal starfields for quick reference, or high-frequency energy shifted into visual regions. If need demanded, such subtle effects as light distortion in higher geometries could be brought within the realm

of human interpretation. The sphere could also synthesize programmed journeys and sound effects, or any combination of fictions and syntheses.

Anna requested a tour of the nearby singularities. "Will there be a specific sequence, madame?" the media computer asked.

"Only an introductory tour. And give me a voice-over to explain what I'm seeing."

The visual journey started.

"Some singularities are made obvious by surrounding nebulae," the voice-over began. "These are veils of supernova dust and gas that have been expanding at tens of thousands of miles per second for hundreds of millions of years." Fading in, wisps like fiery maiden's hair or mare's-tail clouds in a sunset, back-dropped by velvet space. Hidden within, a tiny spinning and glowing cloud, a pinprick, not worth noticing . . . geometric jaws gaping wide, tides deadly as any ravening star-furnace.

"Others are companions to dim red stars, and thus are heavy x-ray sources. They suck in matter from their neighbors, accelerate and heat it through friction, and absorb it in bottomless wells. There is no comprehensive explanation why the majority of the Rift stars supernovaed within ten million years of each other, half an eon ago, but the result is a treacherous graveyard of black holes, dwarfs and a few dim giants. They all affect each other

across their close-packed Rift in incalculable patterns.

"Some can be seen through observation of the stellar background. The rings of stars around a black hole show the effects of gravitational lensing. Light is captured and orbited above the event horizons any number of times depending on the angle of incidence, producing two primary images and a succession of subsidiary images caused by anomalies in the spinning singularity. The glowing gas-clouds falling into the holes produce central points of high-energy radiation, red-shifted into the visual spectrum by the enormous gravitational fields. These are surrounded by rings of stars reddened through clouds of gas, images of stars from every angle—every visible object, including those behind the observer. There are gaps of darkness and then succeeding rings of stars like the bands on an interferometer plate, finally blending into star-images almost undeviated by the singularity."

She was reminded of electronic Christmas ornaments from her childhood. The splendor was heightened by the sphere's adaptation to human vision, but only in part. Anna knew what she saw was very close to what existed outside, perhaps only a few million miles away in any direction, so close her ship could reach it in minutes . . .

"Dear God," she murmured. To fall into one of those things would be to transcend any past experience

of death. They were miracles, intrusions into reality, jesters of space-time. Her eyes filled with tears which nearly broke their tension bonds to drift away in free-fall.

"Where no such diffractions and reflections are visible, perhaps absorbed in dark nebulosities, and where no X-ray or Thrina sources give clues, naked singularities stripped of their event horizons lurk like invisible teeth. These have been charted by evidence obtained in protogeometry warps. There is no other way to know they exist."

The Thrina song of a nearby singularity was played to her through audio. It sounded like the wailing of lost children, sweetly mixed with a potent bass *boum*, an echoing cave-sound, ghost-sound, preternatural mind-sound. "No reason is known for the existence of the Thrina song. It is connected with singularities as an unpredictable phenomenon of radiating and patterned energy, perhaps in some way directed by intelligence."

Anna Sigrid-Nestor left the sphere and drifted quickly back through the extension to the crew-ball. Her hands were shaking. Her cheeks were wet.

XI

KAMON FOLLOWED and waited. A ship could remain in half-phase only so long before its unintentional mass loss (how easily he had spotted and avoided the ghosts!) reached a critical level. His shipmate medi-

tated and fasted alone in her cabin. Kamon was left with the simple-minded computers—it would be blasphemous for an Aighor machine to have a persona—and a few aides to see to his food and wastes. He preferred it that way. At one point he even ordered them to clear away the captain's smashed body so he might feel truly alone.

The Venging was close. He had had no further contact with the Council at Frain or any other Aighor agencies. He had spotted and charted the ship of Anna Sigrid Nestor, and felt his own sort of appreciation at the intuition she was following personally. She was on her own Venging.

Such was the dominance pattern of humans.

XII

"FOUR MINUTES thirty seconds before critical point," Graetikin said softly. Lady Fairchild gripped her husband's arm tighter. For a society woman she was holding up remarkably well, Graetikin thought. He'd never had a chance to talk to her and see what she was like.

The worst was yet to come. Kamon would inevitably chase them down, and there was only one chance left. His equation implied their survival if they took that chance. It was a terrifying prospect, even so.

"We have to leave half-phase," Fairchild said. "And we'll have to outrun him. There's no other way."

Edith nodded and turned away from the bridge consoles.

"Have you ever wondered why he called a Venging?" she asked, facing away from the two men.

"What?" Fairchild asked, not paying much attention to her. He was focusing on the blank viewers, as if to strain some impossible clue from them. It was useless, however. The eye interpreted glimpses of half-phase exteriors, as if they weren't there, as indeed half the time they were not.

"No other way," Fairchild repeated, his voice quiet as Graetikin's.

"Kamon has to have a reason," Edith said, louder.

"I'm sure he does," Graetikin said.

"I've been trying to find out what that reason is. I might have a clue."

"That doesn't really concern us now," Fairchild said, irritated. "Reason or no, we have to get away from him."

"But doesn't it help to know what we're going to die for?" Edith cried, her voice cracking. "You know damn well we can't outrun him! Graetikin knows it, too. Don't you?"

Graetikin nodded. "But I wouldn't say we're going to die. There might be another way."

"You know of one?" Fairchild asked.

Graetikin nodded. "But first, I want to hear what Lady Fairchild

has to say about Kamon's motive." Disjohn took a deep breath and held up his arms. "Okay, Lady Ethnographer," he said to his wife, "tell us."

"It's all in the library, for whomever would care to look it up. Some of it is even in the old books. We've known about it for a century at least—the basic form of the Aighor pilgrimage. They have three brains, that's well-known—but we've ignored the way they use those brains. One is for rational purposes, and it can do everything a computer can do—but it isn't the dominant element. Another performs emotive and autonomic functions, and that's where the seat of their religion is. We don't know exactly what the third brain does, but I have an idea that it prepares the other two brains for a proper death. It has to balance them out, mediate. If the rational brain has an edge, the pilgrim won't be prepared for death. I think the research conducted by the station might have given the Aighors a dilemma they couldn't face—the rational treatment of subjects hitherto purely religious to them. It gave their rational minds an edge and caused an imbalance. So the pilgrims couldn't be delivered to the black holes without wholesale failure in proper rituals of dying."

"And?" Graetikin asked, fingering his stylus. It seemed there was another shoe to drop in the matter, and she wasn't dropping it. But he

couldn't decide what it was either.

"And that's it. I can't go any further than that. I'm not really an ethnographer. But sometimes I wish to hell you had been, dear husband!" There was no bitterness or rebuke in her voice, only regret. Fairchild said nothing, staring at the empty screens.

"You have another way?" he asked finally.

"It's possible," Graetikin said. He began to outline his alternative. From the ninth word on Fairchild was pale, convinced his Captain had broken under the strain.

XIII

ANNA LAY IN THE half-dark and watched him dress. For the first time in years she regretted that her emotional needs had drawn her away from constant alertness. But this was the first time she'd been with this handsome lad for anything more than companionship. He had proved not merely serviceable and charming, as though her aging frame didn't bother him, but a sympathetic human being as well.

"I don't really understand all of what you've told me," he said. His brown polynesian physique shone in the golden sanitoire lamps. "But I think what you're asking me is, do you have the right to put your ship's crew in danger. Well, I'm part of that crew, and I say you're the captain, and I signed on—with the understanding there might be hazards involved in deep-space travel."

"These aren't the normal hazards."

"But if it serves your purpose to link up with the other ship, then how can I or anyone else persuade you not to?"

"Not by discussion, of that I'm sure," she said. "But maybe by your presence. I do have responsibilities toward the people who work for me." She was reminded of what Kondrashev had said to her. Even if they could link up with the Fairchild ship, what guarantee did she have that the Heuritex's predictions were completely accurate? They didn't have complete figures on what Kamon's ship was capable of. Already they'd been surprised several times. And her first lieutenant, Nilsbaum, had worked the problem out on an alternate computer, a human-manufacture Datapak. It had given them eighty percent chances of hitting a singularity if they linked and performed a proto-geometry jump. The heuritex had disagreed. But still, the dichotomy existed.

"I can't blast the bastard," Anna said, "because every pot-shot I take is registered by the tattle machines I had to hook up to pass USC regulations. No way to tamper with them—they retreat into stasis whenever they're not registering. No, a link-up is the only way."

She looked sharply at the kanaka. He looked back at her, his face blank and expectant. "Go take a shower," she said. Then, softer, "Please. You helped me very

much." She turned over and listened to the sounds of the door closing and water running.

She was staring at the drifting colors on the nacreous ceiling when the intership chimed. She reached over to depress the switch and listened half-drowsily. The voice of the Heuritex brought her fully awake.

"Madame, we've contacted Fairchild's ships. First Lieutenant Nilsbaum requests your presence on the bridge."

"I'll be there. Any message from Disjohn?"

"He refuses to allow any link-up. He says he has two reasons—first, that he will not jeopardize your life; and second, that his computers predict failure if such a plan is carried out. I don't understand these machines of human construction."

"Did he say anything else?"

"He just advised you to leave this sector."

She sat up in bed and put her chin in her hands. The shower was still running. "Another question," she said.

"Yes, madame."

"What happens to us if we hit a black hole? I've forgotten most of my physics . . ."

"Depending on the angle we hit at, we have several varieties of doom. If we go straight in, perpendicular to a tangent, we pass through two or more event horizons, depending on the theoretical geometry you subscribe to—"

"What are event horizons?"

"Simply the horizons beyond which no further events can be seen. The gravitational field at that point has accelerated any particle approaching it close to the speed of light. From an outside point of view, the particle's time has slowed to almost nothing, no motion at all, so it will take an infinite time to hit the singularity below the event horizon. But from our point of view—if we are the hypothetical particle—we will hit it. Much that it will matter to us, though. Long before we pass through the innermost event horizon tidal forces will exert strains on us sufficient to strip us down to subatomic particles."

"Not too pleasant."

"No, but there are other options. At a lesser angle, we might pass through an outer event horizon at a speed sufficient to propel us into another geometry, and out again someplace else—a different place and time in our own universe, perhaps, or in another full-continuum universe. We might survive that, if certain theoretical conditions prove true—though it would be a rough trip and the ship might not emerge in one solid piece."

"How can there be more than one event horizon?"

"Because black holes rotate. May I draw you a comparison of two Kruskal-Szekeres diagrams?"

"By all means," Ann said, activating the display screen on the intership.

But the mosaic-like charts did little to help her comprehension.

XIV

"OUT OF THE HALF-PHASE," Kamon said to himself. "Now!"

The image reappeared. He had misjudged the geodesic slightly. The ship was a light-hour farther away than he had predicted, which meant the ship's appearance was an hour off from actual emergence. He felt a brief confusion. Fairchild had pulled it out of half-phase an hour early, then, since the appearance had happened according to Kamon's schedule. But the ruse—if ruse it was—had gained them a very small advantage. He immediately switched to sub-space sensors.

Fairchild's ship was over four light-hours away. More disturbing, it was heading toward a nebosity which charts said contained three collapsars, two of them black holes. Kamon deftly probed the nebula with his proto-geometry sensors. None of these singularities had ever been used for pilgrimages, thus they did not radiate Thrina songs. The area had not been thoroughly charted except on visual and radio levels from thousands of light-years away, where the patterns of the roiling gas-clouds had given away the presence of hidden collapsars. His new scanning revealed another member of the family, deadly elusive and sacred. It was a naked singularity. The very presence of hu-

mans in such a region was sacrilege—but if they were choosing suicide over destruction at his hands, the danger was unthinkable. If they should plunge into any of the singularities . . .

A shudder racked his entire body. He had heard of humans going insane under stress, but if they fell into a singularity *here*, the Venging was a failure and the Rift would never be clean again.

He forced himself to be calm. They wouldn't know how to prepare themselves for the Fall. They knew nothing about the mental ritual involved. It would be, in effect, nothing more than a suicide. Or it would be something worse, for them.

But his basic instinct said destroy them before they ever reached the cloud. For the first time he began to feel real anxiety that he might fail.

He did so want to live forever!

"It can't be done!" Lady Fairchild shouted. "Disjohn, I'm not ignorant! I know what those things are. Graetikin has to be insane to think we can survive that!"

"I've heard him explain it. The computers back him up."

"Yes, on his assumptions!"

"He's on to something new. He knows what he's talking about—and he's right. We don't have any other choice. The Aighor has every advantage over us, including religious zeal—as you pointed out. We've tested event-models on the comput-

ers again and again. We have one chance in a thousand of coming out alive. With Graetikin's plan, our chances are at least ten times greater."

"We're going to die, is what you're saying, either way."

"Probably. But there's something grander about this way of going. It robs Kamon of his goal. We hold the upper hand now."

"You know what will happen if we suicide in one of the singularities?" Edith asked.

"We don't plan on suiciding."

"Just going down one, we make this entire region useless to them for their pilgrimages. Mixing souls is anathema to them, like mixing meat and milk to an Orthodox Jew."

"There was a hygienic reason not to mix meat and milk. It spoils faster."

"Are we so bloody materialistic that we can't see a reason for this kind of tabu?"

Fairchild swung his hands out and turned away from her, talking loudly to the wall. "Damn it, Edith, we have to use Occam's razor! We can't multiply our hypotheses until we avoid stepping on cracks for fear of killing our mothers. We're rational beings! Kamon has that advantage over us—he is not acting rationally. He's on a venging, just like a Goddam berserker, and he's got a faster, better armed ship. We're doomed! What should we do, bare our breast

to him and shout 'mea culpa'?"

Edith shook her head. "I don't know . . . I feel so lost."

Fairchild shivered. "You're not alone. Any being would."

"Except Aighors," Edith reminded him. "And they've always been prepared for it."

XVI

"**H**E WON'T LET US dock with him, he's turning toward the singularities—there's nothing more I can do," Anna said. "He's choosing suicide rather than give Kamon the pleasure of executing him. Or is he up to something?"

"I can offer no explanation, madame. Either they have gone insane or they have data unavailable to me."

She sighed and leaned back in her chair. "Can they receive any messages now?"

"They are in the cloud. There's too much interference."

"Veer off. Circle to the opposite side of the nebula and we'll see if anything emerges at that end. I've met Fairchild's captain—he may have more up his sleeve than we can know from this perspective."

Dumfounded, Anna watched the final act on her sensors and tapped her fingers on the Heuritex.

XVII

PROBABILITY FELL apart at the ergosphere interface of a singularity. Whether the same conditions applied to a naked singularity or not,

he didn't know—he guessed they would. But they wouldn't have to face the danger of the tidal forces—there would be no event horizons, no overt indication of in-rushing space-time. The singularity ahead had collapsed from a star obliterated by the presence of other stars, and the result was a hole in space-time stretched out into a line. If conditions still applied here, he'd have to figure their chances of survival on a near-poetic hunch.

It was clear to Graetikin now. Inter-universe connections of necessity were devoid of probabilities. They were truce zones between regions of differing qualities, differing constants. Hence, somewhere above the singularity, re-shaping of infalling material had to take place.

Perhaps the Aighors weren't far wrong after all.

He worked all his findings into a single tight-packed signal on several media and broadcast it to space in general. When he was finished he turned to Disjohn and Edith and said, "Feels good to toss out a bottle, anyway. If someone picks it up, well and good. If not, we've lost a few megawatts. But we'll replace that and more in the plunge. Too bad we won't be able to use it."

"What does that mean?" Edith asked in a small voice.

"If we survive, we'll absorb the gain evenly and there will be no differences in potential to draw power from. And if we don't, then it won't matter."

The computer spoke up in disagreement. "It will be gained as overall temperature increase and resistance to acceleration," it said. "Not as anything involving potential."

"I was thinking metaphorically," Graetikin demurred. "But it's right, of course."

XVIII

KAMON COULD EITHER back off, let them escape and hope for an encounter later, or he could pursue to the very end. But he was becoming fatalistic. It seemed the Fairchild ship was behaving not with human insanity, but with divine irrationality—a shield to his Venging. That could imply they were operating in the Grace of the Thrina, not against it. He wished he could consult the Council with his new intuition, but there was no time. Whether he was correct or not, it made him reluctant to interfere. That small reluctance made him hesitate.

"No!" he shouted, pounding his thorax in disgust. "They are only insane! There is no Grace upon them!"

But it was too late. He had followed the Fairchild ship into the nebulosity on a matching course. They could only construe that as an intention to continue the chase. Since they were insane, they would destroy themselves.

In his self-rage, he considered destroying the Nestor ship for personal satisfaction. But he had other

things to do. He had to prepare himself mentally for the Fall. He told the others to begin their rituals. They would follow all the way."

XIX

"**C**OURSE PLOTTED," the computer told Graetikin. "There will be a proper configuration at these points of the chart. We can meet the singularity's effect-field here, or here—that is, at these points in our future-line. If we fail within any width of time measurable in quantum jump intervals, we will come in at a closer angle and the warp-wave of our approach will create a temporary event horizon which will destroy us. These are our options."

"Initiate the action and test it on a closed loop. Then choose the best approach and put us there. Kamon hasn't left our tail?"

"No, he still follows. And still jams."

"Then my message didn't get through." Somehow that didn't bother him much.

Fairchild gave the final order. Edith watched from his side with a small, knowing smile playing around her lips. She was remembering her childhood. She'd married Disjohn, in fact, because he reminded her of the strength of her father. She needed that strength now.

The ship's corridors echoed with metal groans as the impact of the

nebula's clouds smashed her.

The tiny neutron star was pulsating regularly. It was surrounded by its own halo of accelerated particles, a natural generator of radio energy. The two normal singularities orbited each other, half a light-hour apart. The violet influx of gases outlined them clearly. Like two whirlpools whose surfaces have been smeared with oil, they glowed in disparate, shimmering mazes of light. Starlight ran in rings around them. Ghost images of each other flickered in the rings, and the ghosts carried rings of stars, and images of other ghosts.

Here time and space rushed into multi-dimensional holes so rapidly that an object had to move at light speed to stay in one place. It was a Red Queen's race of cosmic—and cosmological—proportions.

In drawing diagrams of what happens in the singularity below the event horizons, space and time axes cross and replace each other. The word "singularity" itself is a phrase of no more significance than "boojum." It implies points in any mathematical manifold where results start coming out in impossible terms, zeroes or infinities or imaginary numbers. Thus, Graetikin knew more than any of the others, they were soon to step off the pages of one book which had told their lives until now, leave that book behind and everything associated with it, and risk a plunge into null.

God's universe was being twisted

into grotesque failures and inconceivable alterations.

The naked singularity invisibly approached.

XX

KAMON'S THOUGHTS grew fuzzy and uncoordinated. He spasmed with rage as one portion of his mind came unbalanced in the ritual, lashed out with his tail at the bulkhead before him, denting the inch-thick metal. Then he regained balance.

The holiday display of the black holes dominated everything.

He was ready. A tiny reserve part of him prepared his weapons for the last-ditch effort, then vanished into the calm pool of his being.

XXI

DISJOHN FAIRCHILD felt a giddiness he'd never known before. It was analogous to being spun on a carnival toy, but every part of him felt it differently.

"I'm expanding," Lady Fairchild said. "I'm getting bigger. Alice down the rabbit hole—"

Still the ship fell. And fell.

Edith gasped. The bridge darkened for the blink of an eye, then was suddenly aglow with scattered bits of ghost lightning. She held her hands in front of her eyes and saw a blue halo around them like Cherenkov radiation. Expansion. Alteration. The desk in front of her, and

her arms on the desk, broke into color-separated images and developed intricate networks of filigree, became crystalline, net-like, tingled and shimmered and pulsed, then repeated in reverse and became solid again. Everything smelled of dust and age, musty like vast libraries.

Both ships ended their existence in status geometry at the same moment, Kamon following at a different angle, but hitting the affect-field simultaneously with the Fairchild ship. As he had known it would, the Aighor's warp-wave created a temporary event horizon and he was divested of his material form.

The Fairchild ship survived its fall. Graetikin's equations, thus far, were wholly accurate.

None of them could conceive of what happened in the interface. It was not chaos—it was instead a sea of quiet, an end to action. The destruction and rearrangement of rules and constants led to a lassitude of space-time, an endless sargasso of thought and event, mired and tangled and grey.

Then each experienced that peculiar quality of their world-line which made them unique. Fairchild, stable and strong, did not see much to surprise him. Graetikin marvelled in a welter of mathematical insight. Edith, still wrapped in childhood, had a nightmare and woke far in her own past, a child screaming for her father.

Again the darkness. The

ouroboros of the hole spat them out. The computers triggered a lengthy jump, as best as they were able, for the actions of their smallest circuits were still not statistically reliable. This was the chance Graetikin knew they all had to take.

They lived. The ship rattled and shivered like a dog throwing off water from a swim, while the howl of metal made Fairchild's scalp prickle and his arm-hair stand on end. Suddenly the bridge cabin was swept as by a rush of wind and it was over. Edith Fairchild wept quietly and Disjohn, beside her, trembled.

Graetikin bounced his fingers clumsily over the screen controls, then corrected and gave them a view of what lay outside.

"I don't see anything," Fairchild said.

"I'm astonished we even made it," Graetikin whispered. Disjohn gave him a strange look. With adjustment, the screen still showed darkness.

"Give me a scan and chart all radiating sources," the captain ordered the computer.

"Standard H-R distribution shows nothing. There is only an average temperature," it said.

"What's the temperature?"

"Two point seven one degrees Kelvin."

Graetikin slammed his scribe onto the panel. "Any white hole activity? Any signs of the singularity we just came through?"

"Nothing."

"We had to come out of something!"

"Undefined," the machine said cryptically.

"What does that mean?" Edith asked.

"It means we're in a region of heat-death."

"Where?"

"Undefined," the computer said again.

"'Position' is a meaningless term now," Graetikin explained. "*Everything* is evenly distributed. We've come into a dead universe. We're at the top of a beat between expansion and collapse."

"What can we do?" Disjohn asked. He felt an intense ache for his wife, and wished she were at his side.

It seemed he had lost her only recently, the grief was so strong. He looked at Edith. She resembled her mother so strongly his throat ached. He patted his daughter on the head, but felt none of the reassurance he was trying to give.

"We might be able to go into stasis and wait it out. But we'd have to have a timer, something measuring the progress of the universe outside us. I don't think any of our instruments would last that long."

"There has to be a way!" Fairchild said.

"I told you, Father," Edith said with preternatural precocity, "we are being punished."

Graetikin thought of them waiting until the ship ran out of energy and food and breathable air. Years, certainly. But years with a burnt-out old politician and a pre-pubescent girl, his daughter; a triangle of infinitely agonizing possibilities.

"Daddy," Edith, pale and trembling, asked her father, "are we in Hell?"

XXII

THEY ROUNDED THE nebula and waited. Anna asked the Heuritex several times if anything had been sighted, and each time it replied, in the negative. "There is no sign," it said finally. "We would do well to return home."

"Nothing left," Anna said. She couldn't convince herself she had done all she could.

"One moment, madame," the Heruritex said. "This region was devoid of Thrina before."

"So?"

"There is a signal emerging from the black holes. A single Thrina tone, very strong."

"That's what started this whole thing," Anna said quietly. "Ignore it, and let's go home."

XXIII

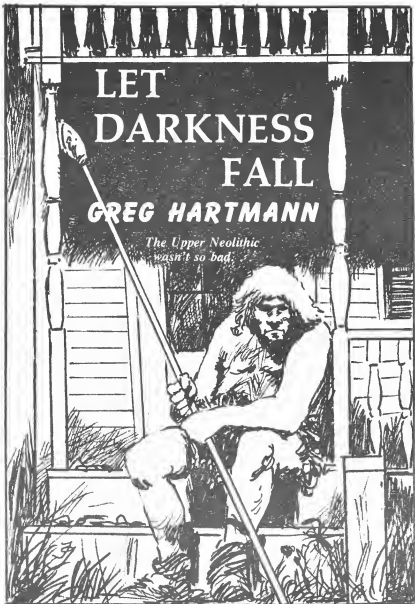
ON THE EDGES of the Rift, the pilgrims received the Thrina, and there was rejoicing.

The death-ships resumed their voyages. ★

LET DARKNESS FALL

GREG HARTMANN

*The Upper Neolithic
wasn't so bad.*



THE KLAXON'S HOOTING caught me in my usual daydream. I was supposed to be plodding through *The Journal of Electrical Engineering*, but instead of circuits and tensors there nestled in my head a vision of my uncle's farm, of the many summers I'd spent there, picking blackberries and playing in the woods with my cousins. Summers that merged indistinguishably in my memory, unlike the precise nine-month terms of scholastic drudgery.

That year we built the hideout—was I eight or ten? And when in that misty arcadia had Bobby hurt his head diving into the creek?

The klaxon blared.

I jumped up and ran from the Engineering Library. Students huddled against the walls to give me clear passage down the corridor. *This is it, this is it.* My heart pounded.

VTOLs were already lumbering aloft from the airstrip behind the Purdue campus. The Central agents cursed as I trotted up to my ship, late as usual, and hustled me aboard. My assigned seat was in the rear, so I plopped into the co-pilot's and hooked the safety mesh. The tall Central agent eyed me but said nothing.

I smiled as we lurched into the air. Even in the bureaucratic superstate the condemned man has certain rights.

We levelled off at 3,000 meters and blasted west.

Into the Abyss.

The VTOL smelled of hot oil. I turned to the agents. "What happened to the Drain? Did someone finally spot it and knock it out without destroying it?"

The tall one shrugged. "It just went off the air. We don't know if it was an accident—or if someone turned it off."

He paused to let me think: *it could be a trap.*

"We hope you'll find out for us."

In Cedar Rapids? Sure, I faced forward again. The epicenter of the Abyss—the most likely location of the Drain—was 5 kilometers southwest of Des Moines. But I'd been assigned to search Cedar Rapids, nearly 200 klicks out. I could tell what Central thought of my electronics skills.

The telecopier on the left bulkhead whirled and emitted a long sheet of paper. The stocky agent passed it on. Data from the automatic monitoring stations and satellites that had sounded the alarm: field intensity decay, r.f. flux curves, hysteresis effects. Nothing immediately helpful.

I tossed it back. How many thousands of scientists and engineers around the world were studying similar printouts?

More important, how many investigators besides Central's would sneak into the Abyss to hunt for the Drain?

I went aft to suit up. As I peeled off my university tunic I recalled I

had a three o'clock class. Sorry, kids. There'd be a lot of classes cancelled today; Central had 23 technicians stationed at Purdue.

I slipped into a camouflage jumpsuit, wondering if our academic "colleagues" would miss us if we didn't return. The condescension of the PhD's was subtle; they knew Central took care of the people it needed—that's why I taught sophomore circuit design. Central thought it would keep my mind honed.

But the faculty let me know I wasn't really good enough to be part of their world. Just thinking about it, I almost ripped the zipper, pulling it tight, and began to strap on my instruments.

"We're at the boundary," the pilot said.

Illinois looked the same as Indiana. Roads snaked along, and even the fields held the rectilinear outlines of 20 years ago. I could almost imagine Uncle Dave still tended his 80 hectares outside Moline. But I knew if we dipped lower, we'd see only brush or grass growing where corn and soybeans once stood in neat rows.

The shards of a ruined town came into view but we were too high to see any primitives.

As we penetrated deeper into the Abyss, the Central agents betrayed their tension only by a tighter than usual control. They were worrying, of course, that the Drain might come back on before they dumped

me and flew out of danger. Experts still quarrelled over whether a person could understand what was happening after it began. Some political prisoners from the '83 coup had been flown through the Abyss in robot ships, but the tapes of their gibberings had been inconclusive.

They landed me on First Street in the center of Cedar Rapids, the VTOL lingering only long enough for the two agents to roll a jeep from the cargo bay. Then I was alone except for a fading whine heading east; out of the Abyss.

JAB A COMPASS into Des Moines. Set it for a 500-kilometer radius.

Begin the circle at Chicago, which falls just inside. Arc north through Green Bay (most of Wisconsin is inside) and Duluth (so is southern Minnesota). Then swing south through Aberdeen and Pierre (there goes eastern South Dakota). Almost all of Nebraska falls inside the Abyss. As the circle swings southeast, so does Kansas. Finally it slices through Missouri and back up through western Illinois.

Scratch Chicago, Minneapolis-St. Paul, Omaha, Kansas City, St. Louis. About 23,000,000 people were inside the Abyss when the Drain was turned on.

Current population (est.): 90,000. Current lifestyle: neolithic.

INSIDE THE JEEP were a Photonflux .80 and four spare power charges. I buckled it on and stowed the extra

charges in a pouch, trying to recall how long it'd been since I had last held a weapon. Was it in '86 that Central issued the personal firearms decree? No matter. Just the weight of a gun at my hip evoked my old Robin Hood fantasies. One against the world. . .

I looked at the sky where the VTOL had vanished and I laughed. No wonder they hadn't given me the gun while I was in the ship.

Cedar Rapids hadn't changed much from the small town I knew 24 summers ago as a Polytechnic engineering student on my first professional summer job. The two big hotels, a bit shabbier, still faced each other like haughty dowagers. The silos over by Water Street had lost their white paint but seemed intact. The store windows were empty but whoever had looted them hadn't burned or smashed much.

The same placid, backwater town I remembered. A bit overgrown, but that was all. What was 24 years to a town that had barely entered the century?

I wandered through a few buildings, more for the sake of reminiscence than reconnaissance. My reason for being in Cedar Rapids—a "suspicious movement" detected by a satellite—could have been invented by a monitor tech under pressure to get results. I'd seen those games at Purdue, where professors had to churn out papers and monographs to advance their careers. Everyone knows that the

game is meaningless, but you're still judged by the points you score. So fake it.

I spat and stretched. It was nice just to escape Central's ubiquitous surveillance, even if only for a few hours.

I was just beginning to relax when I spotted the primitives.

WITHOUT THE EVENTS of July 14, 1979, the naked grease-and-dirt-smearing creatures running towards me probably would have grown up to be sedate, responsible Cedar Rapids burghers.

Then a mysterious power sent an arcane radiation humming over 785,000 square kilometers of Middle America and six thousand years of civilization were dissipated in seconds as the transmission bollized long-term memory. The unshieldable force destroyed such learned skills as reading, power plant maintenance, driving, higher math. Almost every culture trait a complex industrial society needs to operate was scrambled into chaos.

Language remained, although on a far simpler level. So did family bonding. Without those, not even 90,000 would have survived the crash.

When the rioting, burning, murder, famine and plagues were over, the Midwest was populated with small bands and a few larger tribes right out of the New Stone Age.

I caught myself looking for a

familiar face as they chased each other toward me. Stupid of me. There were three girls and two boys; the oldest had yet to face puberty. Even if I'd known one of their parents, he or she wouldn't remember me now. The Drain had taken—

A girl spotted me and yelled something in a strange tongue. A second later tag was forgotten as they gaped. I leaned back against the jeep, hoping they wouldn't flee. How does one indicate peaceful intentions to simple peoples—open hands, waving leafy boughs? I wished Central had better prepared me.

We watched each other across a distance of about 25 meters. They were quite filthy, but they seemed healthy enough. The summer sun had left their skins dark, and sinew corded beneath it. Oh, most had pox scars, and one boy squinted as if he needed glasses. But my dominant impression, fueled by their quick, alert movements, was of squirrels.

Finally I broke the tableau. "Hi, kids," I ventured. They screamed with laughter and scurried off down an alley.

I climbed into my jeep and drove off puzzled. Central's documentaries on Abyss life, using film from satellites and robot probes, usually showed children with distended bellies, fly-plagued open sores or rickets. I'd accepted that as the norm and pitied them their harsh

life without diapers and measles vaccine. But come to think of it, humanity had survived for many millenia without such refinements. The first years are rough, but once natural selection has culled out the weak. . .

I spotted them once more as I circled the block. They were creeping across the overgrown playground behind Benjamin Harrison Elementary School, moving like the Indians I used to read about in my grade school days. It's a shame psychotropic drugs and behavior-reinforcing machines have replaced the hokey old history books. Both methods of teaching were set up to mold "good" citizens, but when I compare my classmates to the potatoes shuffling into my courses at Purdue, I wonder where it's going to end.

Random turnings brought me to Municipal Island where I took a chance on an old bridge. Floods had piled trees and debris around the outer building, but the county courthouse still towered over the island. I found the emergency stairs and climbed to the wide balcony just below the top of the building.

Wind mussed my hair as I looked over a town melting into prairie. A green ocean, it nibbled at an island built of human toil. I thought of Ur and Persepolis. Why do we go to all the trouble, when entropy always wins in the end?

A glorious lassitude crept over me. It was only two hours ago that

the Drain went off yet I felt light-years from my former existence. No loyalty monitors. No need to choose every word with care. No more cramming to keep abreast of ever-accelerating technological change; my first real vacation in years!

I strolled around the tower. To the north I spotted the plant where I'd worked so many summers ago. Bollins Radio Research. There I had learned two things much more important than electronics. One was the subtle savagery of office politics. The other was the limits of my talent.

That was the summer I had learned I wouldn't fulfill my ambitions.

Claws scabbled on the white granite of the balustrade. A pigeon. The Abyss swarmed with animal life, now that man wasn't such deadly competition. Even the bison were coming back. The contrast amused me. In the midst of a databank U.S.A. the pioneer milieu was reborn. Not a Midwest white-house-maple-tree-porch-swing nostalgia hype, but the real Old America—

The pigeon beside me exploded into blood and burnt featherstink.

The laser was in my hand before I hit the deck. Blast. Another investigator in Cedar Rapids. Instead of peeking over the edge and getting my brain broiled, I rolled over on my back and studied the wall. About two meters above the railing where the pigeon had been was a

burn. I calculated the angle. The sniper must be almost directly below, only a hundred meters from the base of the courthouse. Somewhere on Municipal Island.

I snaked inside and padded down the stairs. Every five landings I stopped to listen, heart pounding, hoping I could reach the bottom before he could trap me inside.

He was dumb, though. I made it down and was just peeking around the bottom of a side door when he got up the nerve to rush the courthouse. I sighed in relief as I burned his legs off. But after all, most of the good investigators would be in Des Moines. Only second-raters pulled outlying cities.

I shot his laser from his hand and strolled over to administer the *coup de grace*. He stank worse than the pigeon but I'd dealt with worse during my hitch in the Venezuelan War. Eyes clenched, face contorted, moaning. I tapped his cheek with my foot to get his attention. "Who you working for?"

"Kill me kill me kill me."

"First you have to tell me who hired you."

"Corn." I snuffed him.

Turning this interesting bit of information over in my mind. I was just beginning to congratulate myself when I realized he might have a partner. And there I stood in the middle of the street. A perfect target. I began to laugh, insane laughter at the empty-eyed build-

Cedar Rapids, City of Second-Raters.

CORN?

You'd think everyone would want the Drain turned off—a given, right? Great cities deserted, 90,000 people trapped in savagery, rail and river and road links severed. A gaping wound in the nation's heartland. What pathos.

At first it was treated as a temporary aberration. Iowa and Wisconsin were classified special federal territories. The surviving fragments of Missouri, Kansas and Nebraska set up rump governments staffed by the few state officials who escaped the Drain. Companies that had been headquartered in Abyss cities adapted fast or were shouldered aside by rivals. The federal government announced low-interest loans would be available to homeowners when the Drain went off and exiles needed funds to fix up their houses.

But five years flowed into ten, and then fifteen. . .

The population plummeted, then stabilized as individuals learned to cope with the new subsistence economy. Inside the Abyss the cities rotted, but outside—

Corn farmers in Indiana and eastern Illinois had made fortunes since the Abyss had interdicted 90 percent of the nation's best corn land. Similarly, marginal wheat land in panhandle Nebraska and eastern

Colorado boomed as stockmen bid up the price of feed. The price of Texas beef tripled with Kansas out of the way. The South benefited from the need for substitute protein sources like soybeans and peanuts. Northern Minnesota found itself with a near-monopoly on dairy products, now that Wisconsin was gone.

Chicago's demise especially altered commerce. New commodities exchanges blossomed in Fort Worth and Dallas. New mail-order houses were created. Pittsburgh's heavy metals and machine-fabrication industries boomed.

Even Louisville and Cincinnati benefited; their sickly beers were back in the running with Milwaukee and St. Louis gone.

Billions of dollars flowed around the Abyss, settling into new patterns, encysting the scar.

Not all the money men wanted the Abyss to remain. Oh, how the realtors screamed for Central to nuke Des Moines and destroy the Drain so they could reopen the Midwest. Some of the bills they introduced in Congress before it was disbanded would have made the Oklahoma Land Rush seem sedate.

But Central refused to do anything to eliminate the Abyss at the risk of destroying the machine(s) that generated it. Someone had designed the ultimate weapon for depopulating a nation while leaving its industries and resources intact. Why hadn't its creators struck again? Had

they been caught in the Abyss when the Drain went on?

Other powers than Central had investigators ready for the day the Drain went off.

EVENTUALLY I abandoned even the pretense of looking for the Drain and drove out to the Bollins plant.

At first it bothered me that I'd lost my fear of the Drain. Most of my life had been spent learning to cope with scientific and political structures; if the Drain went on all that would be blasted into the ozone.

Well, so what?

I wondered what it would be like to live in a world where disputes were settled by hand-to-hand combat instead of satellites poised to spew nerve gas over entire continents. Where one grubbed food from the earth instead of inserting a credit card into a cafeteria machine. I might not live as long, or as well, but. . .

My route took me past a family living in a crumbling frame house. Children played around a woman with sagging breasts mashing something in a bowl. At the sound of my engine a man came to stand beside her, warily hefting a spear. I didn't stop.

What would become of them if the Drain stayed off? Nothing could help the primitives who'd wandered outside the Abyss; some

long-term effect of the force prevented substantive re-education. What niche could they fill in technocratic society? Reservations? Zoos? Or experimental subjects for the psych teams?

I put the thought aside as I entered the winter-twisted parking lot. I didn't want to think ahead to my inevitable return.

Nostalgia flared as I walked through long corridors to the wing that had housed my desk. I'd learned a great deal from the wise old engineers here, much of it non-technical. How to take credit for another's idea. How to spot the person who really controls the division and win his favor. How to wheedle computer time away from someone else and how to cover mistakes. I'd entered Bollins very green but by Summer's end—

Ah, there was the door.

The office had been converted into a lab.

I sagged against a testing bench, suddenly tired. My fantasies of sitting in the section manager's chair and desecrating his desk vanished. Everything changed. New furniture, even a new wall or two I could have accepted. But not a complete phase-out. It was as if the room had never known my existence.

A whisking noise drifted into my gloom. Approaching down the corridor. Secret agent synapses flared and I jumped behind a bulky electronic assemblage and leveled my laser at the door. It could be anyone

from a primitive to another investigator.

A man wearing a silvery helmet casually walked in.

"Freeze!" I shouted. He halted, looking about in confusion. "Hold it right there." I stood up so he'd see I had the drop on him.

His face was disturbingly familiar. Was he someone I'd seen at Purdue, stringing for a private firm hunting the Drain? "Who are you working for?" I demanded.

"Why, myself." He stared back, bemused. "I built the Drain. Please be careful, you're leaning on it."

TWENTY MINUTES later I began to accept his tale. I stood before Jim Rudolphson, holding my laser in one hand and a sheaf of carelessly sketched schematics in the other, listening to an absurd tale of a loner and maverick who beat the system by destroying it.

"... and once I'd figured out the affinity principle, it was easy to calculate 34 watts at 200 centimeters would neutralize RNA transfer. Getting the lysine for the radiating element was the hardest part. So then I asked myself, where to build the transmitters? Why not in the most moronic security system in the world. Bollins Radio Research. Remember the time you created a new circuit and wrote a memo on it? And when you wanted to see the memo later they wouldn't let you because in the meantime it had been re-classified and your security rating

wasn't high enough? I built the transmitters in the lab here, the fools. . ."

The extent of my luck astounded me. I had the Drain *and* its inventor. Suddenly a position in one of Central's high-powered research labs didn't seem beyond my reach. Excited? Like the last day of fifth grade, knowing that in a few days I would be on my way to Uncle Dave's farm again.

"... really threw them off was hologramatic wave transmission. I knew if I used ordinary point-radiation antenna they could figure out the locus, examine it from satellites, and send in robots to put me off the air. So I connected two transmitters to the device—the other's in a silo near Lincoln, with shielded long-life batteries like this one—and I adjusted them to create an energy nexus over Des Moines. A delicate balance, oh yes. It wavered every time a thunderstorm came along. But that just generated all the more r.f. flux to wipe out centuries of intellectual garbage. . ."

On he rattled, assuming because he remembered me from years ago at Bollins there was a personal bond linking us. What a romantic idiot. But that summed him up. He was an eccentric, continually running afoul of the corporate machine, tolerated only for his occasional flights of genius. Hologramatic wave transmission? That alone could have earned him fame.

I remembered the jibes of the older engineers, who thought him too flighty to realize their mockery. Rudolphson must have enjoyed watching their minds melt.

"Since I knew how to neutralize the radiation"—he touched his helmet—"I could go anywhere inside the Abyss, do anything I wanted without interference. Most of the time I worked in the labs. Want to see the clocks I built? Sometimes I had to go outside to buy parts or pick up technical publications. I had lots of money. It was lying all over the city. Oh, I enjoyed those trips outside. One newspaper thought I was a Brazilian plot. Another said I was from outer space. And one. . ."

I had to admit he'd conjured up a pleasant dream. A decompressed society where people could be themselves instead of fitting into roles built up over centuries by others. What new world would the primitives create, if we let them continue? Would their path inevitably lead to another Argus-eyed bureaucracy? Or would they avoid our mistakes? This madman's dream had cost millions of lives, but might it not, after all, be worth it?

I envied Rudolphson. Instead of enduring high-competition egos, instead of slicing off little pieces of himself to satisfy society's whims, he'd kicked over the gameboard. What glorious anarchism! I sensed it burning in his eyes as he pleaded with me to join him in repairing the

circuit that had let the soothing radiation vanish.

I was postponing the inevitable when a man in green coveralls spoke from the door I'd forgotten.

"Hold it, both of you." He eased into the lab. He made me drop my gun and then ignored me; my GI camouflage suit proclaimed my master. Keeping his gun trained on me, he eyed Rudolphson's outdated civilian clothes. "Who are you working for?"

"My name is James Samuel Douglas Allen Rudolphson and I invented the Drain. Will you help me fix it?"

He laughed. A thick braying guffaw. "Where'd you find this nut?" he asked me.

Rudolphson screamed, shrill and sudden, and leaped.

We were both surprised, but the other investigator was fast; his beam cut the mad scientist in half before he had moved three meters. But that gave me enough time. His second shot went over my head and before he could slice the beam down across me I burned him.

My knees shook as I staggered back up. Probably adrenalin activating a flight-reflex, fighting my conscious mind. No need to run now, I told myself, thinking of the other Central flunkies frantically searching ruined Midwest cities, shoulders hunched as they wait for the Drain to snuff them. Nothing to fear, old chaps. I have the situation well in hand. You're safe.

As long as I don't turn the Drain on again.

I rescued the schematics from a threatening rivulet of gore and rifled them musingly. Poor Rudolphson had completed most of the repairs. With these I could do the rest. The Abyss could blossom again, dark orchid over Middle America. With the helmet to shield me I could laze out my remaining years free of the power-pigs outside. It would be better than exile. No extradition, no assassins in the Abyss, no siree. And if I grew bored I could slip back into the United States. . .

My vision cleared. I remembered my would-be arcadia was only an enclave in an immensely stronger civilization that every year came closer to destroying the entire planet. The Abyss wouldn't protect me from H-bomb radiation or bacterial weapons.

TURN IT ON? What an atavistic fantasy, I chuckled, as I clenched the firing stud and beamed the Drain into slag. So childish, so unworthy of me. I tucked the schematics into my pouch and stepped into the corridor. Then I set the lab on fire and ran from the building, giggling with pyromantic glee.

A pity, but not to be helped. Long before I could repair the Drain, Central would have follow-up agents in to investigate my "disappearance" and they would doubtless come across the device. And if

I did report in, then Central would pull me out; and somebody, sometime would find the Drain. No, this was the only way. I sat down under an oak 150 meters from the Bollins Plant and prepared to enjoy the conflagration.

The next steps laid themselves out with cause-effect precision.

In a few days they'll come pick me up. By then I will have memorized the major Drain assemblies and principles and destroyed the schematics. With the evidence gone (half of it burned, the other half unlikely to be discovered in its abandoned silo before I visit Lincoln and destroy it too) the secret of the Abyss remains hidden. A mystery for the ages.

Eventually I will outlive my usefulness to Central and be mustered out. Ten, fifteen years? No matter. In the end I'll be a forgotten old tech with a little home lab to putter about in. On a farm, perhaps? It must appear innocuous.

The whole central building was aflame now. Fragments of roofing ripped free and hurtled aloft, riding a fountain of fire that expanded as destruction ate through the plant.

I turned to the section on power. Surely with modern components the range could be extended beyond a mere 500 kilometers. An interesting technical problem. I thought of the ionosphere. Under certain conditions it reflects radio waves completely around the world.

I like the simple life.

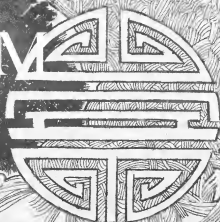
★

Herbie Brennan

*Reality is in
the eye
of the beholder.*

THE

YIDAM



TENZIN PEERED back at the Lama through his little gold-rimmed spectacles. He wanted to ask a question, but prudence overcame his curiosity and he waited. Eventually Katsang Rimpoché added, "The Yidam must be taken as the object of your contemplation."

After a little while it became obvious that the audience was at an end. Tenzin bowed in the Chinese manner, touching his forehead to the ground. It was an extravagant gesture, but one warranted by the circumstances. "Thank you, Precious One," he murmured.

He returned to his cell only briefly before leaving the monastery altogether. It was set high in the foothills, its foundations biting into the primeval rock, but instead of taking the beaten track down to the valley, Tenzin set off westwards, following a broken path that took him higher into the mountains.

A little more than three hours later, he stepped wearily onto a ridge and walked slowly across a bare rock apron to the entrance of his cave. It was chill at this height, but the exertion of his climb had kept him warm. He sat down and rested, then, anxious to begin, arranged his limbs in the lotus posture, ankles crossed on thighs. Almost automatically, his gaze sank to the tip of his nose, his breathing slowed, shallower and shallower. His body trembled twice, then locked into stillness.

In the cave mouth, looking out

across a Himalayan valley, Tenzin meditated on the Yidam.

TENZIN PASSED his old cell without so much as a sideways glance. He hesitated at his master's doorway, then slipped quietly inside without knocking. Katsang Rimpoché knelt in prayer before the little shrine at the far side of the room. Tenzin waited.

Some time later, Katsang Rimpoché rose and turned. His thin, lined features betrayed no surprise at seeing Tenzin. "I bid you welcome, my son." His voice was soft and dry, like dead leaves blowing across a barren plain.

Tenzin bowed. "Forgive my interruption, Precious One. I have done as you instructed."

The dark eyes glittered into his soul. "What did I instruct you?"

"To meditate on the Yidam, Master."

"And what wisdom have your meditations brought?"

"They have brought to my mind the truth that the Yidam is a great and powerful deity. They have brought to my mind that His wrath is boundless as His power. Yet withal, there is much that He might teach me, for that is His nature."

The Lama nodded gravely. "It is good. Go now and begin your next task."

Tenzin waited.

"You must conjure up the Yidam to appear to you," added Katsang Rimpoché.

EACH TOME was so heavy, with its massive binding and protective wrappers of oiled cloth, that Tenzin had to carry them singly to his cave. It was the work of two days and it chafed him that so many hours were wasted.

When the fifth and final volume had been laid carefully in its niche at the back of the cave, he lighted a butter lamp, tired though he was, and prepared to begin his studies right away.

He took leaves from the books, one sheet at a time, carefully rewrapping the remainder to protect them from the damp that seeped down the stone walls.

He continued his studies, sleeping six hours in the twenty-four, for three months and eleven days.

The books frightened him.

"IT IS NECESSARY," said the Precious One, "that you are now initiated in the art of *kyilkhor*. The time is almost ripe for you to see the Yidam."

When he returned to his cave, Tenzin practiced the construction of the *kyilkhor* diligently, deviating not one fraction from the method his guru had taught him. He became skilled.

One morning, by now certain of his abilities, Tenzin drew the *kyilkhor* on the cave floor using colored powders. Then he sank into the lotus posture and began to chant the formulae that Katsang Rimpoche had given him.

He continued, without pause, throughout the day and deep into the evening. Because of his excitement, he slept only four hours that night. On the following morning he began his chant again.

Somewhere towards the end of the fourth day, he reconstructed his *kyilkhor*. On the evening of the eighth day, the Yidam appeared.

TENZIN STARED at the shifting form above the *kyilkhor*. It stabilized with agonizing slowness. He chanted, as the Precious One had taught him.

The shapes were alien, mind-warping. He clung to consciousness and chanted, watching space turn slowly inside out. A chill of fear ran through his body. Echoes reverberated in the cave.

The shifting forms solidified and Tenzin bowed deeply from the waist, thanking all his guardian gods the entity could not escape the *kyilkhor*.

When he raised his head, the cave was empty in the flickering firelight.

Well pleased, Tenzin settled down to sleep.

"YOU ARE FAVORED," Katsang Rimpoche told him gravely. "Few are honored in so short a time." The old man stared past Tenzin, his eyes suddenly withdrawn. Tenzin waited, listening to the wind as it slid through cracks in the ancient

monastery walls. It was spring, but at this height the wind still carried chill messages and even the occasional snow flurry.

The dark eyes focused. "What you experienced was not complete success, my son. Your spiritual protector vanished in brief moments. It was—" He paused, thoughtfully. "—an encouragement: no more."

Tenzin waited.

Surprisingly, Katsang Rimpoche sighed. "You must seek those dark secrets only the Yidam can reveal. And how can that be if He remains but for an instant?"

Tenzin remained silent, his eyes fixed on the lips of the Precious One.

"You must hold the Yidam within your *kyilkhor*," Katsang Rimpoche went on. "You must strain your powers of concentration to their utmost. Build up in your mind a detailed picture of the Yidam, for in this way you will aid his manifestation. Practice diligently and without ceasing until you achieve the desired result."

Encouraged, Tenzin returned to his cave.

AFTER TWO MONTHS, Tenzin felt despair.

The Yidam appeared rarely—late in the evening when fatigue had begun to dull his senses—and stayed only for an instant.

Perhaps, he thought, the entity was just a figment of the imagina-

tion, overheated by the sonorous chanting and relentless concentration. Perhaps it had no more reality than a dream.

One evening, for no apparent reason, the Yidam came and stayed.

TENZIN WENT about his daily routine calmly. Each time he glanced towards the *kyilkhor*, he could see the Yidam. The sight had ceased to chill his soul, but the shifting planes of light around the entity disturbed him profoundly.

When Tenzin looked directly at it, the Yidam remained immobile. When his attention was diverted, the creature moved about almost fitfully within the *kyilkhor*.

At night, the planes of light grew stronger, more disturbing. Within them, the entity was as visible as at noon. There were even times when it appeared to gain greater density.

On the third day, when he was satisfied the Yidam would not fade, Tenzin left the cave to tell his holy master.

KATSANG RIMPOCHE NODDED. "Your progress is. . . .praiseworthy." The glittering eyes fastened on Tenzin's own. "But it is far from finished."

Tenzin waited.

"The Yidam remains but a shadow. While this continues, you can never feel His power, obtain

full benefits from His protection. You must strive now to give Him substance. You must achieve greater degrees of concentration. You must pray to Him hourly until He favours you with His conversation and His blessing."

For the first time, Tenzin risked a direct question. "And then, Precious One. . . . ?"

The Lama hesitated. "There is a certain danger. When the Yidam achieves substance, the *kyilkhor* can no longer hold him."

TENZIN BOWED wearily to the looming figure. His forehead touched the earth, passing through the Yidam's feet as easily as if they had been a dream.

He rose and went on impulse to prepare some buttered tea. Beyond the fire in his cave-mouth, snow was falling. Only a little higher up, the passes had already been blocked.

In a house he could not see and had not seen for seven years, servants would be storing up provisions for the winter.

Tenzin sipped from the wooden bowl. He knew if he looked round, he would see the shifting planes that formed the Yidam. Yet the entity remained intangible as some product of his own imagination.

Imagination. . .

Tenzin set down his bowl. As he half turned towards the *kyilkhor*, the Yidam spoke.

"IT IS FINISHED, Master," Tenzin
THE YIDAM

said. "The Yidam walks freely in my cave. I feel His feet with my forehead when I bow to Him. I feel the touch of His hand when He gives me His blessing."

"Do you hear His voice, my son?" asked Katsang Rimpoche.

"Precious One, as clearly as a temple bell. His tones are fearful."

"You know his blessing?"

"I know it, Precious One. When His hands are placed upon my head, fire pours through my soul. My body is strengthened, my mind is cleansed."

"It is good," Katsang Rimpoche murmured. "But it is not finished. The Yidam can reveal to you the secrets of the Cosmos. Yet until He is prepared to walk with you from your retreat, your task can never be complete. With the Yidam at your side, you will become a great magician or a holy sage. Until then, you are no better than a prisoner in your cave."

THE BLIZZARDS ceased, the raging winds became a memory. Above the foothills, snow still lay in a crisp, white carpet and ice crests glittered on the Himalayan boulders.

Tenzin squatted thirty yards outside his cave, heart pounding with excitement. He watched the dark 'O' of the cave mouth with utter concentration. Faint lights sparkled inside, like sun glinting off ice crystals.

There was a curious *straining* in the air, as if the atmosphere was

trying to accommodate the meshing of two alien dimensions.

The Yidam emerged. For just the briefest instant its form flickered in the sunlight, then solidified.

Tenzin heard the sound of its approach, felt the actual vibration of its steps through the apron of primeval rock beneath his feet.

The Yidam left no marks in the snow.

KATSANG RIMPOCHE BOWED. "There is no more I can teach you. You have won the favour of a protector far mightier than I."

It was a gesture of dismissal, but Tenzin sat still, locked by his inner conflict. The Lama regarded him impassively. Abruptly Tenzin blurted, "I have sinned, Precious One!"

"How have you sinned?"

"I doubt the reality of the Yidam!"

Katsang Rimpoche frowned. "Can you not see Him?"

"Yes, Precious One."

"Can you not touch him?"

"Yes, Precious One."

"Is He not solid and material as the universe around you?"

"He is, Precious One."

"Your doubts are blasphemous," the Lama said. "They must be rooted out. Double and redouble your efforts to resolve them. Spend your days in meditation until this has been achieved."

Tenzin left the Yidam near a

boulder some distance from the monastery. The ground was wet underfoot with melted snow. He walked slowly, head bowed.

The dark eyes glistened, reading his expression. "You are troubled," the guru murmured.

"I cannot resolve my doubts!" Tenzin exclaimed bluntly. "I have spent the winter months in meditation and my doubts are stronger still. Master, I am now *convinced* the Yidam is a product of my imagination."

"Is there no way I can shake this strange conviction?"

Tenzin shook his head. "Master, I have passed beyond all doubt. Although the Yidam is as solid as the universe around me, I know I am a prey to mirage." He waited, prepared for the Lama's anger.

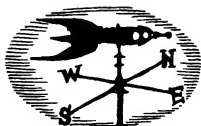
Katsang Rimpoche smiled. "You have learned your lesson well. The Yidam did indeed spring from your mind and will, when you will it, sink into your mind again."

Fear clutched Tenzin's heart. "And the universe!" he whispered. "The universe that seems as solid as the Yidam?"

The Lama nodded. "That too will sink into the mind when you no longer need it."

When Tenzin passed the rock on his way back to the cave, the Yidam was no longer there.

He stared thoughtfully at the boulder, then up at the high Himalayan peaks. Under his gaze, their solid outlines flickered. ★



Dear Mr. Geis:

Many thanks for helping both the author and the reader viz the "U-Novel" remarks you made in December's "If".

I buy an author twice, and, should I experience non-entertainment, I simply write him off my list and he's never ever missed—at least by me.

Asimov is lettered, I don't know about Vance, but they both know that it's a buyer's market. Never have these gents, among others, failed to entertain me. Consequently I'm attracted to the names, in themselves.

It's unfair to term them "hack writers" but I'm not a writer by trade so I cannot conjure up a more proper term.

I still marvel over the arrogance, the wretched arrogance of poverty, encountered in my "Greenwich Village" period. Unsuccessful writers froth at the idea that writing is a sale of a service. They don't want to *know* about that concept. Unsuccessful writers get very vituperative and noxious when reminded of economics.

You've done all concerned a tremendous favor. If you influence some author to forgo "suffering" and if you help to give me a greater array of entertainment it's all been worth while. I expect Asimov will laugh at Alter's remarks before he asks the maid to serve tea. Vance, I believe, will simply shrug at the obvious and return to his typewriter or whatever bizarre vices he may be perusing at the moment.

So, gentlemen, I leave you to go run a

subway train (my trade). I'll not bother you or interfere with you until we meet again for our bi-weekly moment of truth at the bookrack.

Arne C. Eastman

Dick's reply:

The "My art for my art's sake" writers point out that 75-95% of the fiction on the stands are of the "commercial" writing ilk, so what are we complaining about? Of course, 90% of that is junk. . . which leaves precious little really good dramatic, exciting fiction for us readaholics.

Dear Mr. Baen,

I would like to compliment you on the resurgence of *Galaxy*, which, for the first time in years, I am buying and enjoying. The February issue was particularly fine, especially the second installment of Zelazny's *The Sign of the Unicorn*. Zelazny has the ability to be entertaining while still saying something—stylistically or thematically—that transcends parallel universes, dragons, and court intrigues. He's a lot of fun at a time when many writers aren't too much fun. I can see the need for entertainment and literature in the science fiction genre; but I respect a man who can do both.

I would like to say a few things about Tak Hallus' "The Linguist." It was a funny story with a good thematic twist that I enjoyed. I have only one beef. A Hereford is not necessarily a steer. Through several personal interviews with the Herefords in our pasture, I have discovered several steers. But there are also some pretty spy bulls romping among our cows; and since we have a couple of calves wobbling around, too, I have concluded their actions are not mere shows of male ego. Hereford is a breed of cattle, like Guernsey or Angus. Only when chromosomes and man conspire to make one so, is a Hereford designated a steer. Okay?

Sincerely,
Jerry Meredith

Route 3, Box 341-A
Mooresville, N.C.

Dear Mr. Baen:

I enjoyed J.A. Lawrence's "The Persistence of Memory" in the November *Galaxy* because it was one of the first stories I have read which attempted to give a scientific explanation of the belief many people have in reincarnation. I would, however, like to discuss Lawrence's explanation in light of what is known about the behavior of DNA in replicating cells.

Lawrence's major premise was that a high intensity magnetic field present at the proper instant in cell division could cause the bonding in the DNA molecule to become skewed. This model he uses to explain the ability of the Nyen-Hwa to remember a past she/they could not have lived. Lawrence then explains that this ability could not be passed on to the offspring because "when the chain parted again, it would resume normal bonding".

What Lawrence apparently failed to consider is that if this askewed bonding occurred during the third cell division of the embryo (as stated in the story), the next cell division (the fourth) would correct the error. As the DNA is replicated, the original bonds between the strands are broken before the "new" DNA is synthesized. The new strands of DNA would be faithful replicas of the "old" without the askew bonding error. This, as Lawrence stated, would account for the trait not being inheritable, but it also would mean the trait would not be passed to even one cell generation.

Therefore, unless the intense magnetic field were present at the proper instant during each succeeding cell division until cortical development were completed (approximately the end of the fetal stage—perhaps 30 cell divisions as a guesstimate), or at least at the crucial stage when the cells begin to irreversibly differentiate into the cortical cells (which happens well beyond the third division), the ability to remember the past would not have appeared in the Nyen-Hwa.

Unfortunately, even if the magnetic field were maintained at precisely the correct time for the required number of cell divisions, the askew bonding would not persist as the DNA were transcribed to form RNA. RNA is the molecule which carries the information stored in the DNA into the cytoplasm where it is decoded. When RNA is produced, the DNA helices are decoupled and one DNA strand is copied. The mistake in bonding would not be carried in the single stranded RNA and thus would not be decoded in whatever way memories are decoded.

Lawrence's was an inventive and thought-provoking story. I hope someone takes his lead (maybe even Lawrence) and tries again to work with the "belief in reincarnation" in such a rational manner.

Sincerely,

Billie Jean Grounds

904 South Marianna
Tempe, Arizona 85281

Dear Jim:

First, I want to congratulate you on what you have done, and are doing, to *Galaxy* and *If*. One cover in particular, that of the October issue of *If*, by "Pini," is one of the best I have ever seen. Pini has real talent.

I also enjoy the articles by Jerry Pournelle. The mixture of good fiction and good articles such as his makes excellent reading.

One thing I would like to comment on. The letter by Mark Terry, in the December issue of *Galaxy*. He says, and I quote, "I really do not mind when an author inserts a bit of the occult or ESP, but wish he would take care to make it believable", unquote. I do not disagree with this statement and I thoroughly enjoy good fiction based on ESP in its various forms and occasionally some of the occult, like Andre Norton's *Witchworlds* series. However, the point I wish to make is, that actual ESP quite often is unbelievable. I carried on a series of ESP experiments, with a group of friends, for about ten years, testing every form we could think of and in

every way we could think of. I'll guarantee you, many of our results were unbelievable, although the greatest disappointment was that they were inconsistent. Like one week results were out of this world, the next, nothing. In other words, it was not something that could be turned on and off like a light bulb, but only when conditions were just right, and in all the time we ran the tests, we never discovered what it took for "conditions" to be right. Our best results always were unexpected. One thing I learned though. A very high percentage of people tested showed signs of latent abilities they would hardly believe, mostly telepathy.

In line with this, I recently read a book called "The Amazing World of Kresken" published by Avon Books. Even discounting a lot of it as publicity stunts, this man has developed more control over telepathy than anyone I have ever heard of. I would highly recommend it to anyone interested in ESP.

Best wishes,

Ed Woods
P. O. Box 209
Pearce, Arizona 85625

Ed Woods

See this month's science article. ESP is no longer in need of proof—just further study.

One for Dick:

Dear Mr. Baen,

The many good reasons for castrating, or neutering (the euphemism is "altering") male cats include improving their dispositions, increasing their life-spans, removing the source of their frustrations (if confined indoors), and decreasing their odor.

Therefore, (though Geis is so cute when he's being vicious!) may I suggest that someone alter Alter?

Yours sincerely,
Maureen Leshendok

7979 Riggs Rd. #5
Adelphi, Maryland 20783

DIRECTIONS

And one for me:

Dear Jim:

Phucking is phun. No doubt about it. I've been convinced of this for years and have practiced it at every opportunity. But I'll be damned if I want to read about the operation, especially not in IF-Galaxy. If I should ever want that sort of reading, Brother Hefner can supply it or I can make a trip to Portland and visit one of the "adult" bookstores that cater to delayed adolescents of all ages.

What brought all this on is M. A. Bartter's *Be Ye Perfect* in your current issue. I am not overly fond of little blondes, to begin with, and I don't give a good goddam whether IT goes IN and UP or Down and Out.

For crissake, Jim, let's knock off the crap and get back to science fiction. Either that or change the name of your mag and compete with Playboy. Or I'll be tempted to say: UP YOURS.

Most sincerely yours,
Virgil Hays

Phalaxy?



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